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TEXACO ASPHALT

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THE MUNICIPAL INDEX AND ATLAS used in connection with the current advertisements in THE AMERICAN CITY, places local officials in the most favorable position to obtain all types of available equipment and supplies from manufacturers who desire to serve municipal government departments. THE MUNICIPAL INDEX AND ATLAS (723 pages) is published annually by THE AMERICAN CITY MAGAZINE CORPORATION, 470 Fourth Avenue, New York 16, N. Y.

See pp. 19, 21, 22, 24, 26, 131, 133, 135 for catalogs and publications on municipal and civic subjects

For Index to Advertisements see page 164

THIS LOOKS LIKE A WAR PICTURE but it's right here in the U. S. A. It shows a part of a telephone cable-laying job. We're planning to install 2,100,000 miles of Long Distance circuits within a year.

Lots of action on the Long Distance front

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Requirements of World Capital Site

How the Problems of Land, Sovereignty, Police Service, and Utilities Will Be Met

WHEN the General Assembly of the United Nations Organization holds its first meeting, opening in London on January 10, one of its important tasks will be to select the site for the permanent capital of UNO.

With decision apparently narrowed down to the eastern seaboard of the United States, the honor seems likely to go to either the New York or Boston region. The choice is to be left entirely to the delegates from other nations. The U. S. delegation, to be composed of Secretary of State James F. Byrnes, Edward R. Stettinius, Mrs. Eleanor Roosevelt, Senator Connally (Dem.), of Texas, and Senator Vandenberg (Rep.), of Michigan, will be neutral on the question.

Regardless of where the capital is located, the role of the U. S. will involve arrangements completely new in this nation's history. The following description of these arrangements, as far as they can be foreseen at this time, is given by the *United States News* in its issue of December 28, 1945:

An international zone. First of all, the piece of land to be designated as the capital site will be taken out from under American sovereignty and will be internationalized. The nearest parallel to what is in view is this country's District of Columbia, which is set apart as a national zone and is not subject to the laws of any State. In the same way, the world capital will not be subject to the laws of any individual nation.

What capital will look like. Facilities for the UNO probably will include a main building with an auditorium for the Assembly, and office buildings for the Security Council and its Military Staff Committee, the Secretariat, the Economic and Social Council, Trusteeship Council, and other affiliated agencies. A preliminary estimate is that, including families of delegates and staffs, the world capital will bring a community of 30,000 persons.

Agreement between U. S. and UNO. To complete the process of internationalizing the capital zone, an agreement between the United States and the United Nations Organization will be necessary. Here are some of the points this agreement is expected to cover:

Control. The international zone and the air space above it will be fully under UNO control, and will be guaranteed by the United States as "inviolable."

Acquisition of land. Most of the communities seeking to become the UNO capital are offering tracts of land as an inducement. Any land needed beyond what is donated would be purchased by the UNO.

Police protection. The U. S. will be asked to provide police protection along the boundaries of the international zone, and perhaps inside it as well. Any American police activities inside the zone could be only at the request of the Secretary-General of the UNO, however.

Administrative services. The Organization is not expected to provide its own power, gas, water and the like, but to depend on the nearby community for them.

Right of transit. The UNO will insist that any persons properly accredited, including press and radio personnel, be guaranteed the right of transit across U. S. territory to reach the international zone. The UNO will reserve the right to maintain its own airport and railroad station.

Right of communication. Similarly, the UNO will insist that its right of communication with the outside world be guaranteed. Plans are being discussed for erection of the most powerful radio station in the world.

Immunities. Property and income of the United Nations Organization will be exempt from U. S. taxation. Also, personnel connected with UNO, such as diplomats in Washington, will be granted immunity from immigration laws and from being sued for what they do in an official capacity. Whether they will have the same immunity from local traffic laws now enjoyed by diplomats in Washington remains to be seen.

When the U. S.-UNO agreement is drafted and approved by the General Assembly, it will be presented to the United States for approval, either as a treaty going before the Senate or as an executive agreement submitted to both houses.

U. S. as new center of gravity. Thus, with both the political and financial capitals to be located in this country, it is clear that a significant shift away from Europe is taking place, and that the U. S., in the coming phase of history, is the new center of gravity in world affairs.

The Cities' Most Pressing Problems

IN the opinion of Barnet Hodes, Corporation Counsel of the City of Chicago, as set forth last month in his report as chairman of the Committee on Municipal War Problems and Post-War Planning of the National Institute of Municipal Law Officers, by far the most pressing problem confronting our cities is that of housing and the interrelated problems of slum clearance, revision of antiquated building codes, amendment of zoning codes, juvenile delinquency and group antagonisms.

"It is my feeling [said Mr. Hodes], "that the measuring stick of our democracy is our ability to remove the blighted areas which threaten our cities' future growth and which constitute breeding grounds for poverty, disease, juvenile delinquency, crime, group conflicts, and human misery. Foremost on our post-war programs must be the wiping out of our slums and blighted areas and the providing of a decent home for every American family. It is only by providing decent homes that we can expect to have decent communities. It is only by having decent communities that we can expect to have prosperous, law-abiding and decent cities, states, and, finally, a nation. It is only by demonstrating that men and women and children of different races, national origins, colored skins, religious faiths, and economic interests can live together in peace, prosperity and mutual self-respect in our cities—it is only by making democracy work at home—that we can save our cities and our civilization from the doom which otherwise awaits us, whether by rocket-borne atomic bombs dropping from the stratosphere from without, or from the explosive forces generated within.

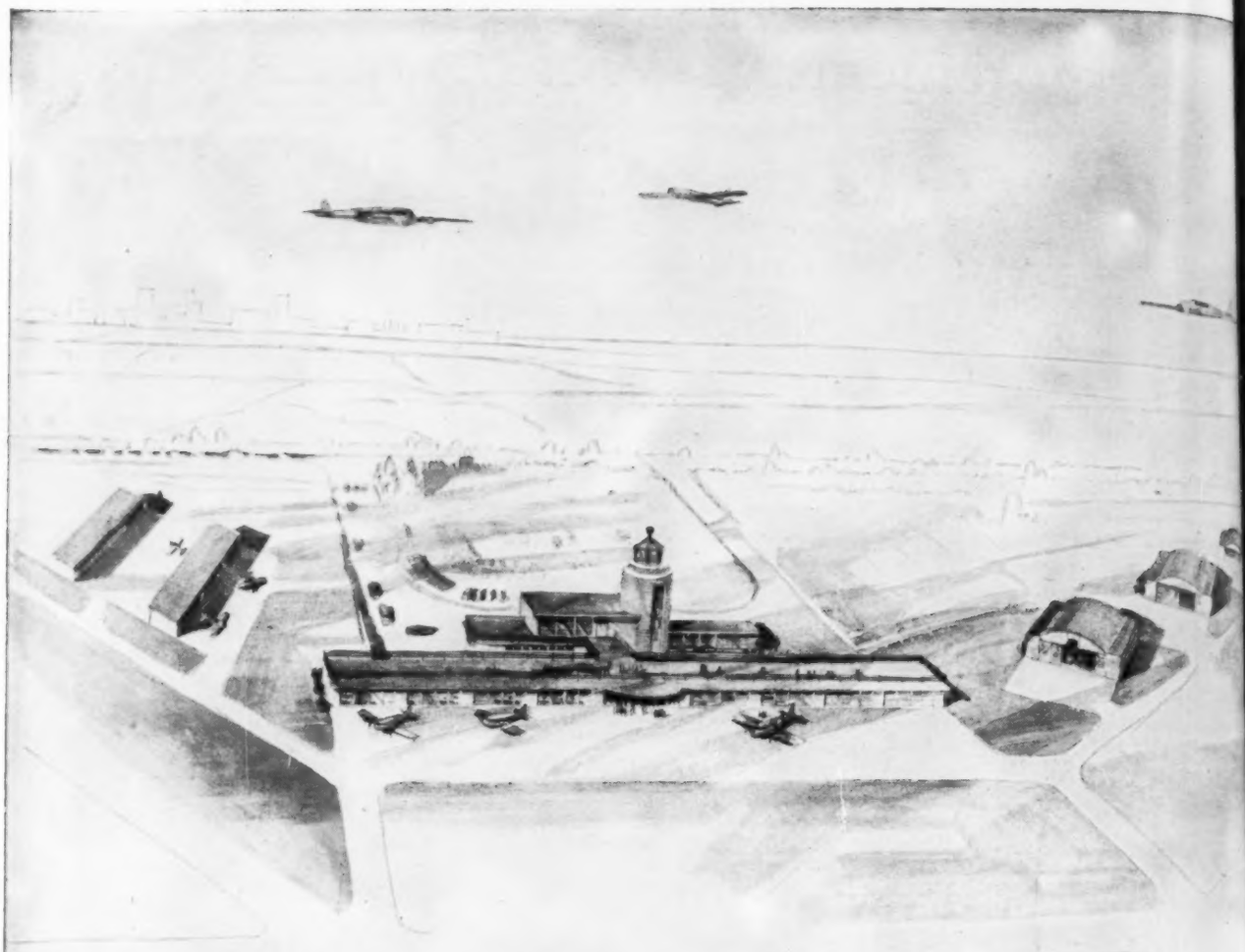
"That is our major post-war problem. Who, believing in democracy, can doubt that America will solve it?"

Federal Department of Municipal Affairs

The need for continuing and strengthening in the post-war era the effective federal-municipal relations developed during the war was a major recommendation in Corporation Counsel Hodes' report. To quote, in part:

"The cooperation of federal government and city in tackling such war problems as war production, housing, selective service, civilian defense, manpower, rationing, and various controls has proved surprisingly effective. Surprising, too, is the fact that so far as our federal government is concerned, these tremendously complicated operations were performed without sacrifice of our fundamental civil liberties.

"These federal-municipal relations are destined not only to continue during the post-war era, but to grow in importance as our populations become more concentrated in metropolitan areas. Whether we face a third world war or merely the problems of peace, this relationship demands a more explicit recognition in the framework of our federal government. It demands, in short, the establishment of a Department of Municipal Affairs, under a member of the President's cabinet."



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Our Municipal Notebook

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CITY NEWSLETTER

PARKING METERS FOR CITY'S MAIN THOROUGHFARES?

TRAFFIC EXPERT

This is the September 1945 "City Newsletter" published fortnightly in Port Elizabeth in Cape of Good Hope Province, South Africa. Its front page features the "Twin" meter that parks two cars

HOW parking meters have lightened the problems of parking congestion has penetrated the "dark continent," as proved by this first page of the *City Newsletter* of Port Elizabeth, a seaport on Algoa Bay in the province of Cape of Good Hope, South Africa. Parking meters have helped in providing parking space with less "cruising," in bringing more motor customers to the stores and in making more traffic improvements possible without more taxes. They are, one might say a sort of economic and social index, for they are not needed in a backward or poverty-stricken city. The gradual expansion of their use in other countries will be an indication that these new places may be attaining freedom from staying home, and freedom from tranquil streets!

Fewer Strikes Where Jobs Are Steady

CITY officials may find stimulating suggestions to pass on to local industrialists in a booklet made available without cost by the American Management Association, 330 W. 42d Street, New York City. The booklet, which is called "Management's Responsibility Toward Stabilized Employment," is by Richard R. Deupree, President of the Procter and Gamble Company. Periodic or frequent unemployment is a root reason for labor unrest, Mr. Deupree states. He therefore advocates management efforts to insure steady employment by what he terms "producing to the consumption line instead of the buying line." That this can be done is indicated by the fact that since 1923 Mr. Deupree's company has been doing it and guaranteeing 48 weeks work per year for all employees of more than two years' service. The booklet tells something of the company's plan and experience.

Officials of cities in the throes of labor disturbances do not have to be told how greatly their communities would benefit by measures tending to stabilize management-labor relations. For a discussion of another aspect of labor relations, that of the governmental body to its employees, see "Collective Bargaining in the Local Public Service" on page 89 of this issue.

The Case for the Development of Water Control

By Existing Federal Agencies

The single-purpose federal agencies have developed skill in their fields through years of experience. They have already initiated programs, approved by Congress, to deal with the effective use of water and land. These projects can start almost immediately to provide employment. They do not have to wait for the establishment of valley authorities with an additional period for formulation of plans. The structure of these single-purpose agencies and their relationship to the rest of the government provide a series of checks upon them all.

By More Valley Authorities

Supporters of regional developments feel that the federal government is so top-heavy, administrative reforms won't cure its fundamental difficulties. Decentralization would eliminate decisions by remote control, avoid confusion and encourage local participation in government. Power to consider all factors of development before enacting a program would mean a coordinated plan which meshes together. Furthermore, the result of attacking a problem from many angles at once would produce a much greater impact than a piecemeal approach.

From the National League of Women Voters "Memo on Valley Authorities."
See page 135 of this issue.

Texas Municipal Changes

JANUARY 1 saw Homer A. Hunter, well-known Dallas, Texas, water superintendent and assistant city manager, taking over the post of city manager in Lubbock, Texas. Mr. Hunter leaves Dallas with an impressive municipal record, piloting the water works through the war years with aggressive substitutions of operating skill for badly needed and hard-to-get materials. His successful method of dealing with the problem was described in the April 1945 issue of THE AMERICAN CITY (pages 81-83).

Taking over the post of assistant city manager is J. C. Bissett, formerly assistant public works director, who recently returned from service with the armed forces. Filling the position of water superintendent is K. F. Hoefle, formerly Senior Engineer in the Water Department.

LEFT: *K. F. Hoefle new Water Superintendent;* CENTER: *Homer A. Hunter, former Water Superintendent and Assistant City Manager, now City Manager of Dallas;* RIGHT: *J. C. Bissett, former assistant Public Works Director, now Assistant City Manager*

Building Better WATER SERVICE

The construction view at the left shows a 1,500,000-gal. Horton radial-cone bottom elevated tank being erected at Gary, Indiana for the Northern Indiana Public Service Co.

THE installation of large capacity water storage tanks like this one helps to *build better water service* into a city's water works system. Studies of actual "before and after" pressure charts have proven many times that elevated water storage can be the determining factor in ironing out pressure fluctuations in water distribution mains. Elevated storage of adequate capacity also provides a city with a ready reserve of water for fire protection. And this type of storage often results in a reduction in pumping costs as well as providing a reserve of water available in case of power failure.

Water works engineers and civic leaders planning improvements in existing water works systems are invited to consult with our engineers or to write our nearest office for actual quotations on Horton elevated water storage tanks.

In addition to Horton elevated water storage tanks, we design, fabricate and erect flat-bottom steel reservoirs where natural elevations provide gravity pressure or ground level reserves are desired.

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Detroit 26 .....1501 Lafayette Building

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Water Supply and Treatment

Venturi vs. Orifice for Flow Measurement

MERELY because primary devices for flow measurement are relatively inexpensive in comparison with the total cost of the plant is no reason for overlooking the economies that result from their proper selection. This was emphasized by L. K. Spink of The Foxboro Co., Foxboro, Mass., before a recent meeting of the New England Water Works Association in Boston.

Although many tests on the accuracy of both orifice plates and venturi tubes are available, no engineering body has stated that either device is more accurate than the other. Consequently, Mr. Spink felt that the two should be placed on a par for use on clean, non-viscous materials.

In general, Mr. Spink indicated, the cost of the orifice-type meter is lower than the venturi, but, it creates a greater loss of head. Unless the cost of power is a serious consideration, however, this loss of head must be studied carefully. For lines up to 16 inches in diameter using a meter with a 20-inch water range, calculations would not justify the purchase of the more expensive instrument. However, for meters requiring larger ranges Mr. Spink would favor the venturi.

The advantages of the venturi tube can be summarized as follows:

It offers more opportunity than the orifice to pass large objects without blocking.

It will handle a little more than 50 percent higher velocity than the orifice at the same differential.

It will measure more accurately the flow of slurries, sewage, or water containing considerable percentages of solids.

These may be matched against the advantages of the orifice as follows:

For the same differential and at the same rate of flow, the orifice bore is larger, thus permitting a larger object to pass without blocking.

The orifice plate is easy to install or replace, in the event that different metering conditions are required. Any first-class mechanic familiar with the necessity of maintaining a sharp upstream edge can make the installation in a few hours.

"Except when measuring high velocities or dirty fluids," Mr. Spink declared, "these intangibles just about balance out, leaving the choice dependent upon a plain analysis of first cost matched against operation."

DDT Enters Water Purification Field

THE first application of DDT to the field of water purification occurred recently at Alexandria, Va., when officials of the American Water Works and Electric Co., Inc., used minute quantities to eliminate "wrigglers" in the clear water storage reservoirs. The experiment was discussed in a recent issue of the company's house journal, *Water*.

The "wrigglers," more scientifically identified as the larvae of one of the flies of the family *Tendipedidae genus Spanatoma*, caused Manager Howard Richards headaches on two accounts. First because, although the larvae are harmless from a public health standpoint, they still are not attractive in a glass of water. Secondly, he had considerable difficulty pronouncing this scientific tongue twister over the telephone when talking to scientists in his home office.

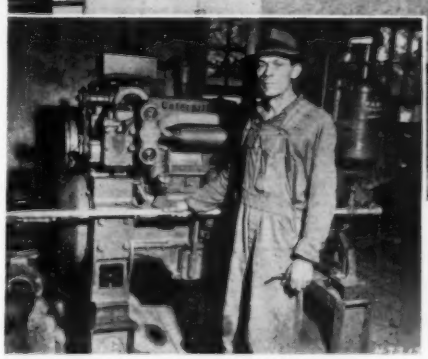
These larvae are distinctive because of their ability to live wholly in the water without coming to the surface for air. They also demonstrate a strong resistance to chemical treatment; chlorine, copper sulphate, and lime seem only to give them added energy.

The solution of what to do about the "wrigglers" came from members of Alexandria's City Health Department: Dr. Shrop, Clark Slaymaker, Keith Wade, and Richard English. They had information which indicated that the insecticide was not toxic if the dosage was held down sufficiently and recommended an application of 0.01 ppm.

After receiving approval for the insecticide's use at this rate from Richard Messer, Director of Sanitation for the Virginia State Health Department, Manager Richards, together with engineers from the New York office, applied the chemical to the 15 mg reservoirs at the Alexandria filtration plant. They made the application by spraying an emulsion containing the DDT on the water surface. The treatment required only 1¼ pounds of DDT in all, or less than a gallon of 25 percent emulsion.

Because of DDT's slow action, they noticed no effect until approximately a day and a half later when the larvae suddenly disappeared entirely from the reservoir and the distribution system.

Small and Attractive



This is the new water works building at Doniphan, Mo., a town of 1,600 population. It is simple in construction, yet its native stone construction blends well with the beauty of this section of the country

Doniphan built this pumping station and well and put it into operation in July of last year. The well is 27 feet deep and produces 150,000 gallons of water per day using a Layne-Arkansas pump. This pump is connected directly to a Caterpillar diesel engine that makes the water supply independent of outside sources of power. C. H. Russell is the operator of the plant (See inset of the diesel unit)

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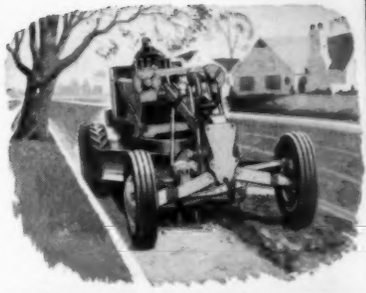

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But this only begins to tell the story of Adams exceptional versatility. Eight overlapping forward speeds enable operators to obtain and maintain fastest practical working speeds on every type of operation. In addition to the road operations pictured here, Adams Motor Graders are adapted to a wide variety of work on—streets and alleys—airports—irrigation ditches—dam construction—and other grading projects.

Investigate the many all-around, year-around superiorities of Adams Motor Graders. See your local Adams dealer.

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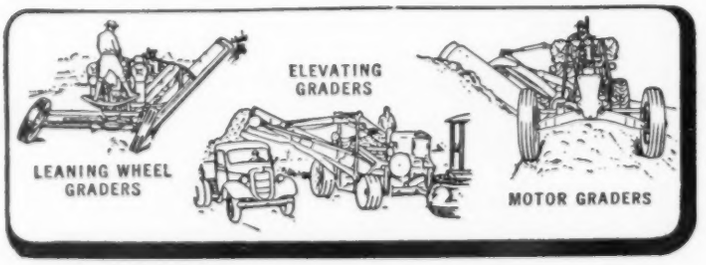

Adams

ROAD-BUILDING AND EARTH-MOVING EQUIPMENT

Street Construction and Maintenance

Commissioner Frank (Hoke) Lock, at the extreme right, watches Springfield's front-end loader at work cleaning the alley

Alley Cleaning Aid

FRANK (HOKE) LOCK, Commissioner of Streets and Public Improvements in Springfield, Ill., has solved the alley-cleaning problem of that town by using a Baldwin front-end loader mounted on a Ford-Ferguson tractor.

Commissioner Lock estimates that the use of this machine has cut the cost of cleaning alleys from $4.50 to less than $1.50 for an average truck load of 2½ cubic yards, and that work is done nine times faster with the loader than by hand.

He now has in operation three front-end loaders and plans to use four. The machines have been so successful in cleaning ashes and debris from alleys that Commissioner Lock has decided to use them for cleaning leaves off the streets in the fall and removing snow in the winter.

To keep the alleys clean Mr. Lock says he will use the front-end loaders the year around. "They not only clean the alley quickly, but level it off as well," he has said.

Mr. Lock hit upon the idea of using a front-end loader while trying to study out a way to clean the alleys following the long winter last year during which an unprecedented amount of ashes piled up the alleys in Springfield.

While in Chicago, he saw a front-end loader in operation, and suddenly decided that was what he needed. He asked the workman to let him operate it and was sold on the idea of using it for alley cleaning work.

Dearborn Drives Down Street Construction Cost

AT a recent Detroit Sectional meeting of the American Public Works Association, Detroit's City Engineer, George R. Thompson, pointed out that in his opinion it was an error to consider one type of pavement as "against" another, for example, concrete as "against" asphalt. This suggests that one type is in opposition to the other and that the engineer is conducting some sort of super contest rather than building a street.

However, he pointed out very soundly that if the design of a concrete pavement is such that it can be compared to asphalt surfacing on relatively the same economic level, the engineer has far more flexibility of action and accordingly increases his ability to serve.

Dearborn's concrete paving program, which is described on page 96 of this issue, is a case in point. There they did drive concrete paving costs down—far enough so that the decision between a concrete and an asphalt surfacing did not have to be made solely on the basis of dollars and cents. Engineer Fred Storrer has also built some residential streets with an asphalt surfacing that have been giving a very good account of themselves, so he cannot be accused of prejudice.

The surfacing that he uses, light in section, without reinforcing, with a minimum of expansion joints, emphasizes the differences between paving a light residential street and a heavily travelled highway. In one case, the surfacing is basically a covering—something to keep dirt and dust down, to shed the rain and give all-weather access to strictly domestic traffic, people going to work and coming home, light trucks delivering groceries, and, very rarely, a moderately heavy truck bringing a load of coal or oil. An arterial highway, in contrast, is actually a structure; it carries a load that is roughly subject to a certain amount of analysis. It gets a lot of traffic varying from light cars to heavily loaded trucks and trailers. Moreover, the highway that does not carry from 3,000 to 5,000 vehicles per day is unusually lightly travelled—and this is at least ten times the burden that a residential street must carry.

However, the type of paving that Dearborn is using presents a few challenging questions. If, for example, expansion joints can be pushed as far as 600 feet apart, why can they not be eliminated altogether? Assuming that the concrete contracts upon setting and does not go beyond its original poured length, then careful maintenance that eliminates the incompressible material's getting into open joints should make the joints unnecessary.

Racine Races Forward with Street Improvements

POST-WAR street construction for Racine, Wis., is already under way with a full head of steam, Mayor Francis H. Wendt reports. The city recently awarded contracts for $90,000 for the purpose of laying new curb and gutter, and resurfacing one street with sheet asphalt; repairing, altering, and building catchbasins on the way.

Next year it intends to launch a much more ambitious program. The estimated cost for next year's work will be approximately $600,000. Plans have been already prepared for much of the work. In the event of any surplus labor, according to Mayor Wendt, these plans will be greatly extended. At present, however, Racine has a serious shortage of labor.

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statement is based on my exper-
ence with the meter currently used and
the analysis of all meters submitted,
together with my personal knowledge of
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Under any other name or trademark, I
would be compelled, through fairness,
to recommend the Miller for purchase
by our city. A comparison of the mach-
ines submitted, even by an individual
with very little or no mechanical know-
ledge, will support my opinion of the
machine. It offers the best construc-
tion and efficient operation to the
motoring public, as evidenced by the
many letters submitted by qualified
technical experts, who have submitted
their opinion and recommendations,
free of charge, as a civic duty.
It is my honest opinion that the Mil-
ler Meter will far exceed its guarantee
in years of operation.
Respectfully submitted,
MANAGER, METER DEP'T.

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More than a score of qualified experts tested and compared the various Parking Meters under consideration by the city of Omaha. The overwhelming opinion was "... **MILLER IS IN A CLASS BY ITSELF**" ... that even if it cost twice as much as any other meter, savings in labor, trouble, and inconvenience by reason of its better construction makes it more economical over a period of years. For all the facts, write us today.

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Sewerage and Sewage Treatment

Perth Amboy's New Cord Filter

SPECTACULAR is the word to describe the operation of Perth Amboy's vacuum filter equipped with the interesting cord attachment in place of the cloth filter medium (see page 77). The plant has two vacuum filters, one at present equipped with the cord filter, and the other equipped with the conventional cloth.

When we saw them, the cord filter was turning out a crisp cake nearly ¾-inch thick, while the cloth filter produced a thin, sickly product that could scarcely be peeled from the drum. The article conservatively speaks of doubling the capacity of the filter by the use of cords. When we were there the capacity had been increased several times.

Perth Amboy's sludge may be described as difficult to handle. In it are short fibers that have a tendency to clog the conventional filter. It also is plagued by a fine-hard-to-settle material like sizing that comes from various asbestos-cement pipe companies. This stuff fouls filter cloth at too frequent intervals.

While plants ordinarily get three hundred to four hundred hours of efficient operation from cloth filters, the Perth Amboy plant was lucky to get five or six. As Consulting Engineer Sooz pointed out, the operators had been forced to wash the filter at almost every revolution.

Contrast this with the high operating rate of the cord-equipped filter. The contrast as we saw it was dramatic and striking. It deserves the closest attention by sanitary engineers.

Hot Water Stream Pollution

TEMPERATURE considerations are highly important when considering the pollution of a stream. This was pointed out by M. LeBosquet, Jr., Sanitary Engineer with the U. S. Public Health Service, in a paper delivered recently before the New England Water Works Association in Boston. It is much more difficult, he pointed out, to maintain aerobic conditions in a polluted hot stream than in one of normal temperature.

Hot water almost always accompanies the discharge of industrial wastes, he emphasized, which has resulted in an interest in water temperature considerations.

Studies by the United States Public Health Service along this line originated from a formula used to design mill ponds for cooling water, according to which ponds can be designed for a heat loss of four btu per square foot of surface area per hour per degree F. of difference in temperature between water and air.

Using this as a starting point, the U. S. Public Health Service was able to arrive at a formula which makes it possible to calculate the excess temperature that a hot waste would produce in a receiving stream at any given point below the discharge.

"Hot water," said Mr. LeBosquet, "in a sense, can be considered pollution."

Cut Operating Costs By Using Sewage Effluent

GENERALLY speaking, it is cheaper to use sewage effluent for all water purposes other than drinking and washing than it is to draw on the city's supply. Operators who are making use of their effluent in this way report marked savings in costs and in many cases state that they have been able to help their communities conserve scanty water supplies.

Robert Burrell, Superintendent of the West Haven, Conn., sewage treatment plant, described a system for thus utilizing the effluent and the results he obtained with it in a paper presented at the New England Sewage Works Association meeting at Springfield, Mass., recently.

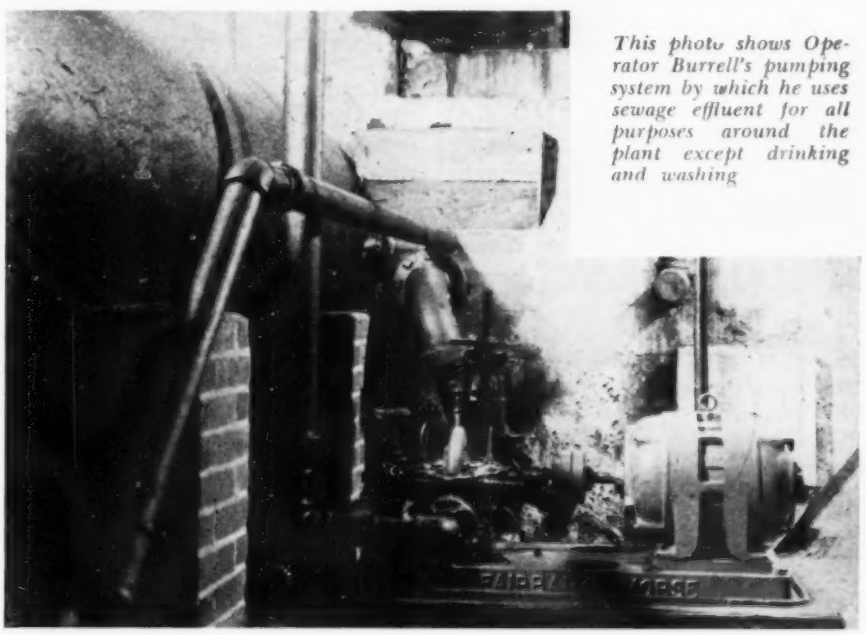
According to Mr. Burrell, the equipment installed consisted of a 1½-inch F-M centrifugal pump capable of discharging 100 gpm at 60 pounds discharge pressure and powered by a 7½-hp motor. This delivered water to a Nu-Matic water and air control tank controlled by a Cutler-Hammer diaphragm pressure regulator set to operate between 50 to 70 pounds.

Effluent must be well strained, Mr. Burrel stated, before it enters the system. The strainer must be cleaned regularly to prevent sediment from entering the Nu-Matic tank.

The effluent water is used in the two chlorinators serving the plant, also for the daily wash down of the three settling tanks and to break up the sludge stored in a converted Imhoff tank. He estimates that the volume of fresh public water saved by these uses amounts to four million gallons. An emergency connection to obtain water from the city system is needed also because breakdowns do occur caused partly by hydrogen sulphide corrosion and also by the presence of tomato seeds that find their way through the impeller of the pump.

The system cost $1,400 to install, although this was pre-war construction, Mr. Burrell pointed out. He reports a yearly savings of $500 in operating costs, so that the original outlay could be repaid from savings in a three-year period.

The West Haven plant, which serves approximately 25,000 persons, gives primary treatment and effluent chlorination to sewage.



This photo shows Operator Burrell's pumping system by which he uses sewage effluent for all purposes around the plant except drinking and washing

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WELL WATER SYSTEMS
VERTICAL TURBINE PUMPS

Refuse Collection and Disposal

How Collection Methods Compare in Minnesota

STUDIES of refuse collection methods as carried out in Minnesota show that they can be tabulated under three headings:

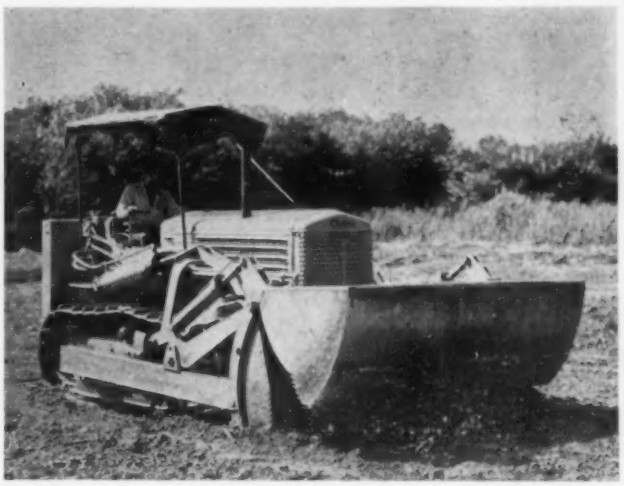
1. Municipal collection by city employees with city-owned equipment.
2. Contract collection where the city enters into a contract with private collectors and pays the private party to do the work.
3. Scavenger system whereby certain individuals are permitted to collect garbage and rubbish under license in certain definite areas in the city.

This analysis was presented by Marion Iverson, Research Assistant, Municipal Reference Bureau, University of Minnesota, in a recent issue of the League of Minnesota municipalities Bulletin. According to Mr. Iverson, private collection is perhaps the most expensive because the collector must not only meet the license fee but also earn a profit. Collection by private collectors is impractical for large cities.

The choice between municipal or contract collection depends largely upon the community. If high grade management is possible municipal collection is preferred. Under contract collection good management methods are generally likely to be employed. However, specifications for the contractor must adequately define the duties and actually contain a cancellation clause to safeguard against improper performance.

The most efficient collection and operation, according to Mr. Iverson, can be secured if the service is placed in one department with an experienced and responsible official in charge.

Topeka, Kans., Uses Sanitary Fill



The Bull-Clam puts the finishing touches on the completely covered area of the sanitary fill at Topeka, Kans. Refuse is 20 feet deep at this point

Improved Refuse Collection Equipment Shows a Profit

MORE efficient refuse collection equipment paid dividends at Sturgeon Way, Wis., according to Eugene Odbert, Jr., Superintendent of Maintenance and Construction for that city.

Speaking before the League of Wisconsin Municipalities recently, he stated that his city purchased a twelve-cubic-yard Gar Wood Load-Packer collection body mounted on a Dodge cab-over-engine chassis and placed it in service. During a six-month period this unit requiring a driver and two loaders adequately handled the collection of all garbage, ashes, and other refuse from the entire city with one pick-up a week in residential areas, and not less than two in the business districts. He was able to do this work on a normal work week of 45 hours.

This contrasts to the experience that Sturgeon Bay has had using ordinary dump trucks which required a total of sixty to eighty hours a week to accomplish the same work and had to haul forty to fifty loads per week. The Load-Packer handled the same amount of garbage and refuse in only sixteen trips.

Sturgeon Bay disposes of its garbage and refuse by the sanitary fill method, (see p. 15, THE AMERICAN CITY, Dec. 1944).

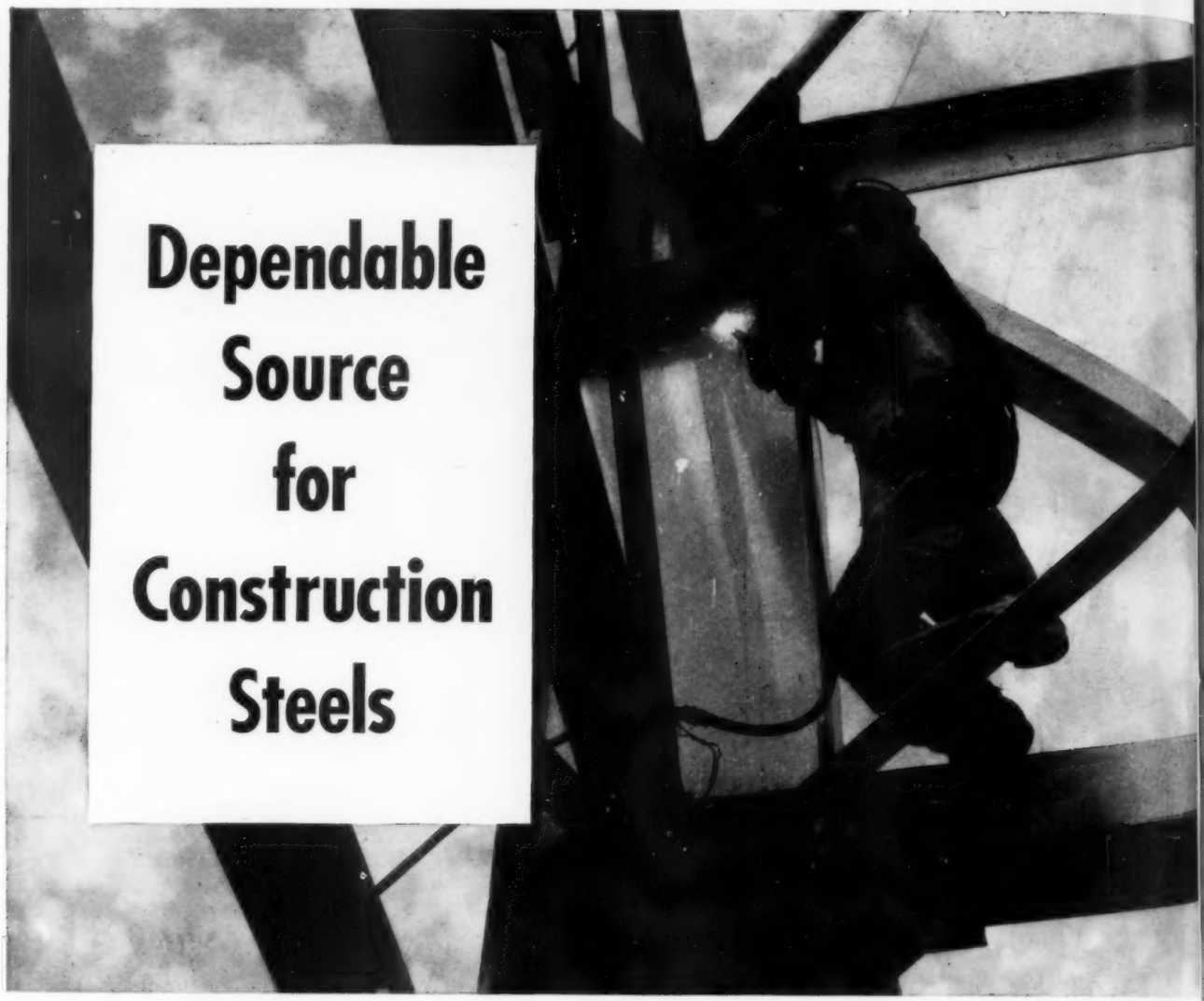
Louisville, Ky., Enlarges Collection Fleet

Six new 13-yard refuse collection trucks have been added to the Department of Public Works at Louisville, Ky. The city is using White trucks carrying Gar Wood all-enclosed bodies

Fee Charged for Refuse Collection

STEUBENVILLE, Ohio, now meets the cost of garbage and refuse collection by making a monthly charge to those households and business establishments directly served, according to a recent announcement.

The plan was recommended by the Steubenville Finance Committee and was adopted unanimously by the City Council. The fee will be paid to the City Treasurer.



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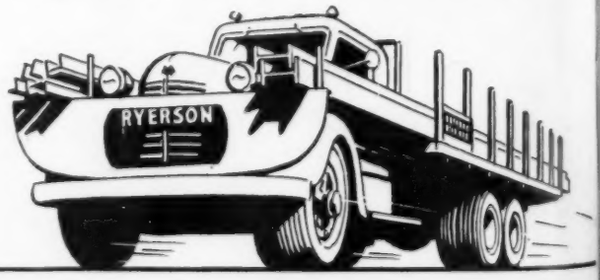


RYERSON STEEL

Public Safety

Traffic's Bad in Schenectady— Immediate Measures

"HOW'S Traffic in Your Town?" was the title of a little article on page 7 of THE AMERICAN CITY for November 1945. Fred W. Fisch, Director, Bureau of Traffic and City Planning, Schenectady, N. Y., responded with a pamphlet just issued by his department entitled "Traffic and Transit Improvements" which sets forth the policy adopted in Schenectady.

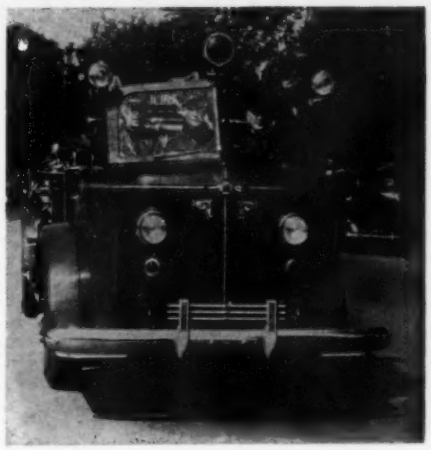
The pamphlet foresees increased motor vehicle registrations and vehicle mileage on city streets, more in town truck movement, and other congestion factors imposing upon existing street systems.

Present major streets will have to accommodate most of the movements of people and goods. Existing thoroughfares connecting places of recreation, commerce, and industry constitute a network which, if modernized, would provide greater traffic capacity, smoother flow, and added safety. Such modernization, consisting of relatively inexpensive street improvements plus traffic engineering control measures and adequate police supervision and direction, can be accomplished speedily and at reasonable cost. The street improvements cover resurfacing and repair of major streets, expansion and straightening of thoroughfares, channelizing of wide thoroughfares, redesign of important intersections with wider approaches, and modernization of street lighting.

The traffic control and direction program covers modernization of traffic signals, standardization of signs, establishing "thru" and "one-way" streets, with "steady flow" as the watchword for all major streets. Segregation of different types of traffic, fewer left turns, and facilities for pedestrian movement are also planned.

The transit improvements cover modernization of equipment, and organization of routes.

Well-marked pavements aid the "steady flow of traffic" at Schenectady, N. Y.



New Types of Fire Trucks

By H. WALKER
American-LaFrance Foamite Co.
Elmira, N. Y.

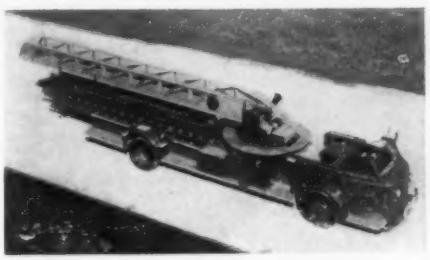
IN SPITE of the shortage of designers and men, all the builders of fire apparatus have realized that the post-war job must be better in design, workmanship, and operation than the job sold before this period. Reconversion meant not only getting back to work, but redesigning.

At the Chicago Convention of the International Association of Fire Chiefs we exhibited a number of drawings and we also published a little booklet called "Design Symposium" which reproduced these drawings. The letters and acknowledgements on these booklets from over 700 fire chiefs are thoroughly representative as they cover both paid and volunteer departments and they are from rural areas, villages, and cities covering the complete population range. All of these returns were carefully tabulated and as a result the outstanding features recommended were:

1. *Better visibility* for the driver.
2. *Improved utility.* Provide more space for carrying equipment and a better arrangement of the equipment.
3. *Increased maneuverability.* A shorter turning radius with improved acceleration and hill climbing ability was requested.
4. *Accessibility of the operating units* for easier inspection and maintenance should be provided for engine and pump.
5. *Better weight distribution* for easier steering and more uniform tire loading with same size tires all around.
6. *Five-man seating* on all models of either open or cab types so that standard companies could be accommodated.
7. Make *front suction connection available.*

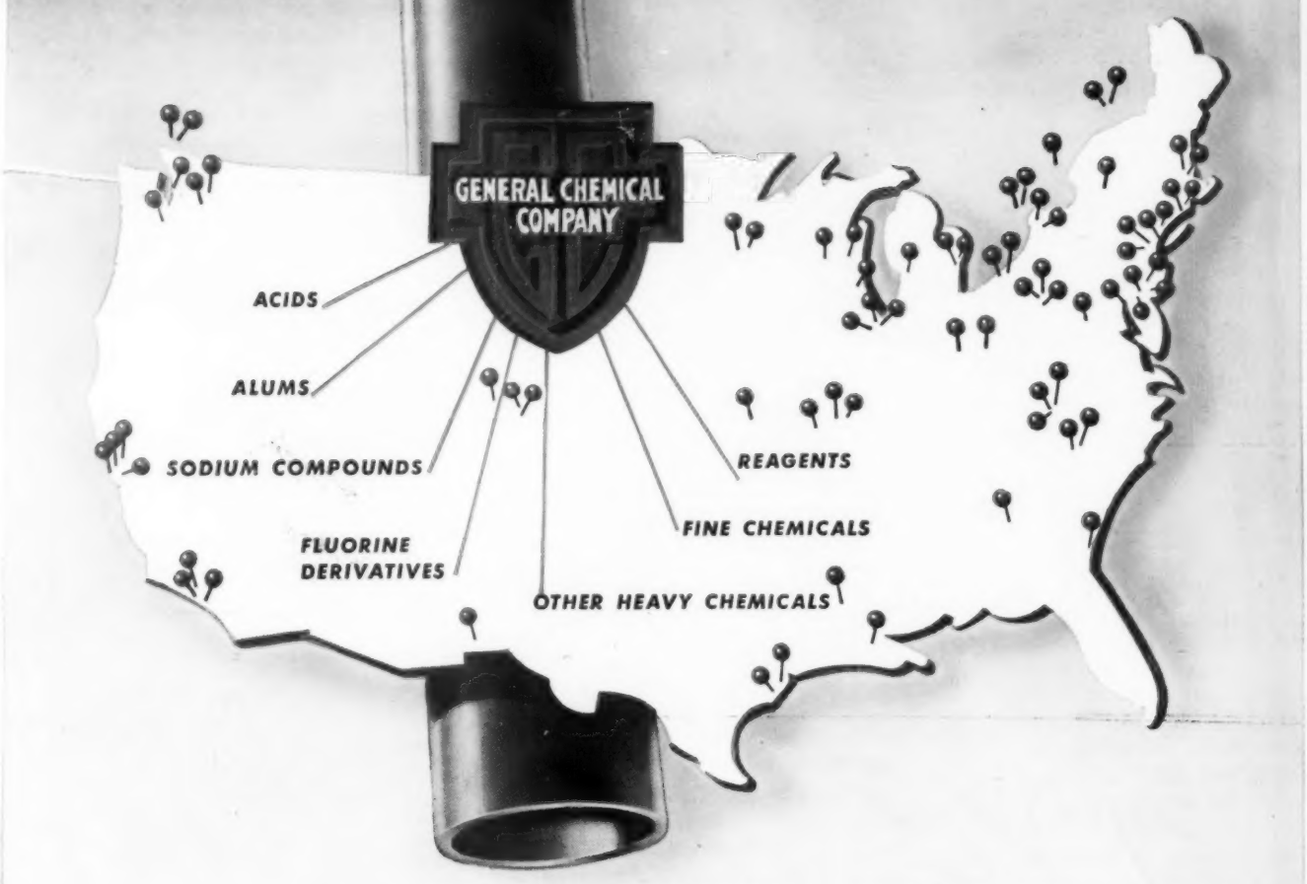
Seventy-five percent of the replies emphasized all of these points as being essential. On some of the items the percentages ran even higher.

Continued on page 93 with detailed descriptions and pictures of new designs.



This design in 65- to 100-foot aerial lengths not only means greater safety for occupants of buildings, but also will prove invaluable in fire fighting in upper stories. Authorities assert that the day of the service ladder truck is passing and any city that does not replace the ladder truck with the aerial is simply not in this post-war world. In England as a result of the fires due to bombing English cities have gone to the T-T ladder (which means the turntable aerial ladder) which gives speed and full operability in life saving and fire fighting.

Supply Line for American Industry...



Here is the supply line of Basic Chemicals for American Industry. North, South, East or West . . . wherever the needs are greatest . . . there, too, are the heaviest concentrations of General Chemical *plants, warehouses,* and *technical service offices*—equipped and prepared to meet the chemical demands of the day.

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Stop--Check and Mail

Please check over the list of interesting catalogs below obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York 16, and we will see that catalogs are sent to you without expense or obligation on your part. 1/46

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Name _____ Position _____

Address _____

Sewage Sludge Filters

468. Sewage treatment officials will be interested in Bulletin No. 100 being offered by General American Transportation Corp., 517b Graybar Bldg., New York 17, N. Y., describing Conkey Sludge Filters, for use in dewatering dry solids.

Garbage Disposal by Sanitary Fill Method

469. "Answer to Your Waste Disposal Problems—with the Drott Bullclam Shovel" offered by Hi-Way Service Corp., 5141 N. 35th St., Milwaukee 9, Wis., will give city officials the facts on the sanitary fill methods of refuse disposal and the part the Drott Bullclam Shovel plays in compacting and covering the refuse.

Recorder of Traffic Flow

470. Road and highway officials and traffic authorities will be interested in details on the Traficounter for the automatic recording of the flow of vehicle traffic. Streeter-Amet Co., 1732 Belle Plaine Ave., Chicago 13, Ill., will send you complete details on this equipment that will help you make important surveys for the proper planning and routing of traffic.

Coverings to Prevent Freezing of Water Meters

471. Here is the way to insulate water meters against heat loss and save many basement meters from freezing. Ford Meter Box Co., Wabash, Ind., will send you details on its meter mittens which are quickly and easily installed.

Storage Batteries for Municipal Vehicles

472. Officials in charge of municipal vehicles will want information on the wearing characteristics of the batteries made by The Hand Laboratory for Electro-Chemical Research and Development, Nyack, N. Y. Figures will show you life expectancy for each battery in police radio cars, sanitation trucks, road scrapers and snow plows, emergency trucks, and ambulance and fire engines.

Useful Motor-Truck Attachment

473. Bulletin D-96 is being offered by Hercules Steel Products Co., Galion, Ohio, on the Hercules split-shaft power take-off. This permits you to use a truck motor to drive air compressor, electric arc welder, post hole digger, winch, or other truck-mounted equipment.

Rubber-Lined Fire Hose

474. Fire department officials will be interested in details from Bi-Lateral Fire Hose Co., 20 N. Wacker Drive, Chicago, Ill., on its fire hose with rubber lining. The company points out that with this hose it is possible to load 25 percent more on the apparatus bed.

The Airport Center of Tomorrow

475. The Ric-wiL Co. has just issued a project study entitled "Looking Ahead to The Airport Center of Tomorrow." This develops the idea that the airport center strategically located on super highways and accessible to a number of municipalities could logically support local activities. A central steam plant removes the objections to chimneys, smoke, and soot formerly associated with such construction at an airport. Anyone interested in airport planning can receive a copy from the Ric-wiL Co., Union Commerce Bldg., Cleveland, Ohio.

Concrete for Airport Runways

476. Officials with plans to build municipal airports will be interested in information from the Portland Cement Association, Dept. A12-4, 33 W. Grand Ave., Chicago 10, Ill., on the use of portland cement concrete for the paving of runways. It is pointed out that this is suitable material for airport construction because concrete pavements can be designed as engineering structures with the necessary strength to carry the wheel load of modern planes.

Machine for Street Marking

477. Here is a machine that handles any type of striping job—traffic lines, either straight or curved, single or double, parking areas, safety zones, crosswalks, athletic fields, airports and tennis courts. Literature is available from Meili-Blumberg Corp., Box A-12, New Holstein, Wis., giving further details on the MB self-propelled marker.

Ferric Sulphate as a Coagulant

478. Actual case histories of water plants now using Ferri-Floc as a coagulant may help you decide on its suitability for your plant. Write Tennessee Corp., Atlanta, Ga., for this information.

Heating Kettles

479. Since the heating of tar and asphalt is such an important step in your street maintenance work you will want information on the proper equipment for it. Connery Construction Co., 2nd & Luzerne Sts., Philadelphia 40, Pa., will send you a catalog showing its full line of heating kettles, spraying attachments, and pouring pots.

Clamp for Repairing Broken Water Mains

480. M. B. Skinner Co., South Bend 21, Ind., will send you a catalog that will show you how to repair broken cast iron water mains in less than 15 minutes. Skinner seal split coupling clamps can be installed by one man.

Soft Water Service

481. Literature is available from Culligan Zeolite Co., 1805 Shermer Ave., Northbrook, Ill., on an interesting method of supplying soft water service for your community. If your water supply is 5 grains per gallon or harder, portable units can be placed in homes on a rental basis and serviced at regular intervals by local dealer.

Stop Under-Water Rusting

482. In order to stop under-water rusting in steel tanks, standpipes, flocculators, deep wells, and other types of water handling equipment, city officials will want information from Electro Rust-Proofing Corp., Dayton 10, Ohio, on its system of cathodic protection. This is an electrolytic method which instantly and permanently stops rust formations.

Road Roller

483. For road and street surfacing work municipal officials will want to have the facts from H. W. Lewis Equipment Co., 415-431 Hoefgen Ave., San Antonio 6, Texas, on its roller. This Pierce-Bear model is available from 3½ to 5 tons with variable weights. The rear roller gives heavy duty compression, and water tanks are built in for wet rolling.

Safeguard and Control Municipal Property

484. Municipalities interested in safeguarding utilities or controlling admission to a park, playground, or stadium will be interested in investigating the use of fencing. Cyclone Fence Division, American Steel & Wire Co., Waukegan, Ill., will send you a copy of its 32-page book on fence giving complete information on different types of fences, gates, in addition to athletic field equipment.

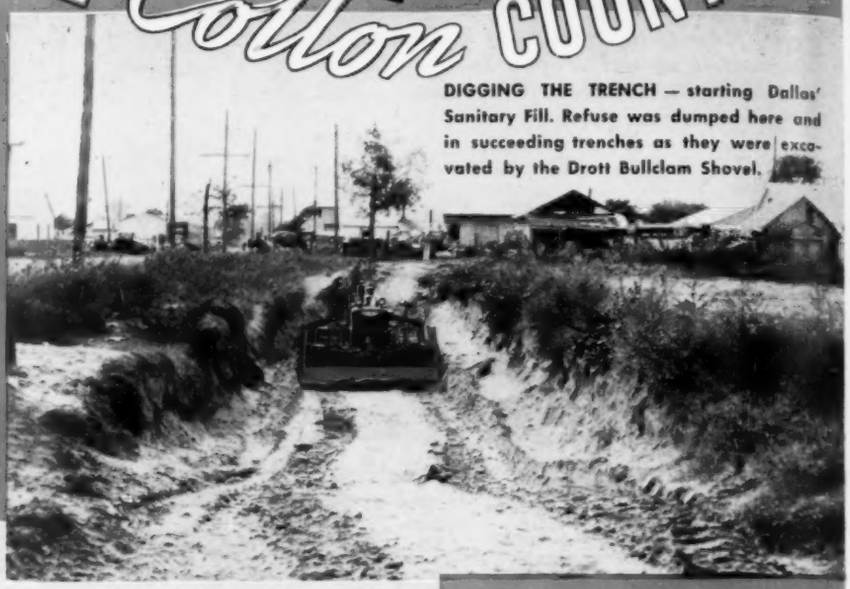
Standards for Street Lights

485. If you would like to provide your community with proper lighting as well as improve the appearance of your facilities the Union Metal Mfg. Co., Canton 5, Ohio, will send you details, prices, helpful information, and advice. Union Metal can provide you with a complete line of modern street lighting standards, including styles and sizes to meet all your requirements.

(Continued on page 21)

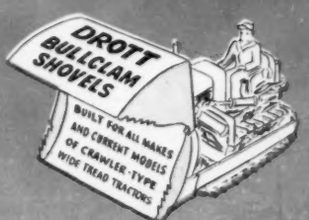
NOW IT'S IN THE *Cotton* COUNTRY!

DROTT BULLCLAM SHOVEL METHOD OF SANITARY FILL is adopted by DALLAS, TEXAS... Home Of The Largest Inland Cotton Market In The World

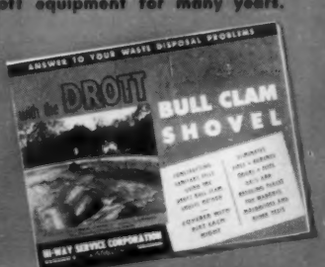


DIGGING THE TRENCH — starting Dallas' Sanitary Fill. Refuse was dumped here and in succeeding trenches as they were excavated by the Drott Bullclam Shovel.

COMPACTING — After refuse is dumped, Drott Bullclam Shovel bulldozes into trench any that falls on top, then thoroughly compacts and covers it. All refuse is thoroughly covered... every night!



Operated by DROTT POSITIVE, CLOSED HYDRAULIC SYSTEM. SMOOTH • QUICK • DEPENDABLE. Keeps dirt and air out ... keeps oil in! Used successfully on Drott equipment for many years.



DOUBLE LIFT FILL —

Here Dallas builds one Sanitary Fill over another — known as the Double Lift Fill... recommended for raising low areas.

Here is the first fill—below the two feet of covering material are five feet of compressed refuse. Fill at left is being constructed over it.

FREE —Get The Complete Story! Send For This Book—"Answer To Your Waste Disposal Problems... with the Drott Bullclam Shovel."

FLASH! The list keeps growing — here are recent additional users of the Drott Bullclam Shovel Method of Sanitary Fill.

LEXINGTON, KENTUCKY
HARTFORD, WISCONSIN
EAST BATON ROUGE, LOUISIANA
TEXAS CITY, TEXAS
MONAHANS, TEXAS
ALEXANDRIA, LOUISIANA
TULSA, OKLAHOMA
ASHTABULA, OHIO
WACO, TEXAS
WOODSTOCK, ONTARIO, CANADA

DROTT UNIVERSAL EQUIPMENT

HI-WAY SERVICE CORPORATION

5141 N. 35th STREET, MILWAUKEE 9, WISCONSIN

Stop—Check and Mail

USE COUPON ON PAGE 19

Installation Data on Centrifugal Pump Units

486. Water works officials will be interested in Bulletin W-312-B9A from the Worthington Pump and Machinery Corp., Harrison, N. J. This gives specific information on the installation of Worthington centrifugal pumps in the water works plant at Lansing, Mich., and illustrates the fact that all parts of this pumping unit are manufactured by the Worthington company.

Increased Capacity for Treating Water

487. Water works officials will be interested in this method of increasing water softening capacity without extra space or relocation of water works. The Permutit Co., Dept. G-3, 330 W. 42nd St., New York 18, N. Y., will send you complete information on the Spaulding Precipitator which removes water hardness, dirt, and color by the sludge blanket process. It is claimed this equipment cuts detention time, saves chemicals, and takes only half the space of former methods.

Keep Steel Tracks in Line

488. If you have been having trouble with steel tracks in your city the Servicised rail filler may be the answer to your problems. Servicised Products Corp., 6051 W. 65th St., Chicago 38, Ill., will send you detailed information on its bituminous premoulded rail filler which holds the rail in secure and resilient contact with the pavement, eliminating expansion and contraction damages.. It cuts maintenance costs, muffles noise, and diminishes vibration and realignment problems.

Four-Wheel Drive Trucks

489. The Four Wheel Drive Auto Co., Clintonville, Wis., will send you data showing the usability of its four wheel drive trucks for many jobs during all seasons of the year. Sure-footed traction and power on all four wheels make these heavy-duty trucks valuable for snow plowing work during the winter months.

Gates to Stop Backwater

490. A catalog being offered by the Armco Drainage Products Association, 645 Curtis St., Middletown, Ohio, will show you how levee openings for tributary streams and sewer outfalls may be protected against high backwater from the main streams. Also discussed are the Calco-Hardesty gates which eliminate this hazard by providing free outflow with quick, positive action to prevent backflow. They are easily attached to Armco corrugated pipe or can be adapted to any type of drainage structure.

Pavement for Heavy Duty Streets

491. Street officials planning pavement programs for their city streets will want data from The Texas Co., Asphalt Sales Dept., 135 E. 42nd St., New York 17, N. Y., on the wearing quality of heavy-duty Texaco asphalt. Texaco sheet alphalt and asphaltic concrete for heavy-traffic streets can be laid on new foundations or over existing worn streets.

Pipe for Airport Drainage

492. Adequate drainage is an essential element of airport design. The Universal Concrete Pipe Co., 297 So. High St., Columbus, Ohio, has assembled material on airport drainage and construction gathered from authoritative sources that will serve as a guide to your design and construction of drainage systems for airports.

Street Lighting Improvements

493. If you are planning street lighting improvements and are thinking in terms of possible later additions, you will want to look into the idea of standardizing equipment. Westinghouse Electric Corp., Lighting Division, Edgewater Park, Cleveland, Ohio, will send you full details on its standardized street lighting system. It is pointed out that Universal metal hoods are designed to accommodate different types of reflectors that produce varying degrees of control of the light distribution.

Flusher Cleans in One Trip

494. Here is a street flusher that does its cleaning job in one trip irrespective of parked cars. E. D. Etnyre and Co., Oregon, Ill., will send your information on its street flushers that will clean streets up to 42 feet wide with its high pressure streams of water that flush all waste to the gutter.

Coagulant for Water and Sewage Plants

495. Water works and sewage treatment officials will be interested in data on General Chemical's aluminum sulfate as a coagulant for their plants. General Chemical Co., 40 Rector St., New York 6, N. Y., points out, among others, the following advantages of its used in water works: it produces crystal clear water, give better floc formations resulting in longer filter runs; in sewage treatment plants: it is clean, easy to handle, and dry feeds well; produces clear, colorless effluents, and the sludge digests easily.

Pipe for Gravity Sewer Lines

496. Sewage officials planning construction of gravity sewer lines will find many interesting facts in Brochure TR-21A from Johns-Manville, 22 E. 40th St., New York 17, N. Y., on Transite sewer pipe. The company points to these advantages from its use on gravity lines and in treatment plants: handling costs are lower, smaller diameter pipe may be used, lower excavation costs are possible, pipe laying costs are reduced, maintenance costs are lowered, treatment costs are less because plant capacity is conserved, smaller treatment plants are possible.

Bronze Cased Water Meters

497. Water works officials can secure valuable data from the Hersey Mfg. Co., South Boston, Mass., on its line of all bronze cased compound meters in sizes from 2 to 6 inches inclusive.

Motors Used in Fire Apparatus

498. If you are contemplating buying fire apparatus, wouldn't you like to know something about the motor? The Seagrave Corp., Columbus, Ohio, will send you data on its Seagrave V-12 motors which are compact and rigid and provide a smooth, stream-like flow of abundant power for its fire apparatus.

Equipment for Compressed Air Jobs

499. Catalog E 172 from the Davey Compressor Co., Kent, Ohio, will give you full information on compressors, truck power take-offs, pneumatic saws, and additional pneumatic engineering data. A new addition to the line is the Davey Auto-Air for use on short compressed air jobs where mobility means efficiency. This is powered by a Davey heavy-duty truck power take-off and is mounted behind the cab leaving plenty of room for men, tools, and materials.

Emergency Breathing Apparatus

500. Police, fire, and park department officials will be interested in data on the Scott Air-Pak which is a self-contained breathing apparatus which delivers to the user fresh cool breathing air for every breathing hazard. Scott Aviation Corp., Safety Equipment Division, Lancaster, N. Y., will send you a 12-page illustrated catalog giving complete details and specifications for its use.

Traffic Signals Eliminate Auxiliary Signs

501. If traffic snarls and a high accident rate are your main headaches why not write for data to the Aroway Traffic Signals, Inc., Johnson City, Tenn.? The Aroway traffic signal eliminates auxiliary instruction signs and at one focal point the driver will find Stop and Go lights, No Left Turn, and No U Turn, and Straight Ahead signs.

Trailers for Municipal Work

502. The moving of municipal equipment and stock in your daily work may be simplified considerably with the use of a Martin Carryhaul. Martin Machine Co., Kewanee, Ill., will send you a booklet describing the many models of Martin trailers of 5 to 20 ton capacity.

Bronze Memorials and Tablets

503. A new series of bronze memorials and honor roll tablets is being offered by General Bronze Corp., 34-44 Tenth St., Long Island City 1, N. Y. A new booklet has been prepared by the company illustrating and describing this means of commemorating your war heroes.

Dredging Equipment

504. Municipal officials anxious to clean reservoirs, fill low lands, drain low areas, beautify parks and other projects will be interested in Bulletin 177 from the Morris Machine Works, Baldwinsville, N. Y., on Morris dredges. These are equipped with Morris heavy-duty dredge pumps and Morris accessory units.

Portable Steam Thawer

505. Highway and street departments can simplify winter maintenance and repair work with a No. 98 portable steam thawer. This product of the Aeroil Products Co., 5705 Park Ave., West New York, N. J., is used primarily for thawing culverts and hydrants. Winter Catalog No. 234A is available discussing the product as well as concrete heaters.

Test Valve for Pipe and Mains

506. Here is a simplified way for you to test pipe as you lay it or for reclaimed pipe, without the need of valves. Test Plug Mfg. Co., Skokie, Ill., will send you a circular and complete information on this test plug that helps eliminate open trenching, can be installed by any unskilled laborer, and withstand 300 lbs. hydrostatic pressure.

Two Parking Meters on One Stanchion

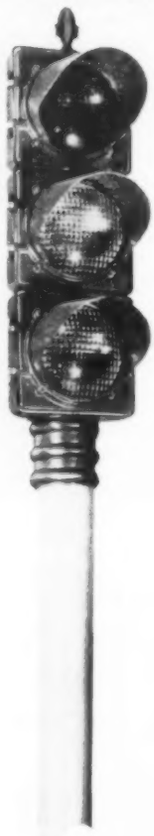
507. If you are contemplating the installation of parking meters you should have information from International Meters, Inc., 41 E. 42nd St., New York 17, N. Y. This new automatic parking meter parks two adjoining cars with savings in maintenance, service, and collections.

(Continued on page 22)

Announcing the New Sectional

UNILIGHT

The UNILIGHT was developed to fill the need for a versatile one-way signal. Each unit is complete within itself and may be easily added to other units to form as many signal combinations as are desired. Each unit may be turned separately to face any one of four directions by one simple adjustment. By a 90 degree turn of the shades, the entire unit may be mounted horizontally without additional fixtures or fittings. The modern lines of this versatile, adjustable signal unit, plus the features listed below, make it a MUST for your city.



Features

- **Each unit complete within itself.**
- **Reflector hinged on door; complete inspection without tools.**
- **Super brilliant Alzak spun aluminum reflectors.**
- **Quick action fasteners; no tools necessary.**
- **Sealed lenses: Adjustable lamp socket for correct focusing.**
- **Dust and weatherproof housing.**
- **Snap spring holders on reflectors for easy removal.**
- **Anti-glare lenses to prevent sun reflection to motorist.**
- **Light weight aluminum alloy castings.**
- **Ease of maintenance.**

Unilight

SOUTHERN SWITCH & SIGNAL CO.

213 Airport Drive • Shreveport, La.

Check Your Wants

Turn to page 19 for coupon

Street Lighting Refractors

508. One of the important features of your safety street lighting should be the refractors. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y., will send you data showing that Holophone refractors are designed to shape the light to the street or in other words place it in the right direction. The company also offers "Holophane Planned Lighting for Safe Street" giving general data on street lighting.

Fencing for Municipal Property

509. Municipalities anxious to protect reservoirs and other public property may get valuable printed matter from The Stewart Iron Works Co., Inc., 1221 Stewart Block, Cincinnati 1, Ohio, on its different types of fences. Among the available types are a non-climbable chain link wire fence; also wire window guards, wire mesh partitions, and steel folding gates especially suited for protecting municipal property. When writing mention products in which you are most interested.

Bituminous Non-Tilting Mixer

510. Catalog BAC from the Kwik-Mix Co., Port Washington, Wis., will give street maintenance officials interesting information on its bituminous non-tilting mixer. This is an end discharge mixer which reduces the time between batches. This light weight and portable mixer can be quickly spotted and the end discharge makes it possible to pull it away from the discharged material.

New Compound Meter

511. Water works officials will be interested in Bulletin W-803 from the Pittsburgh Equitable Meter Division, Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa., on its new compound meter. Features of this new smaller and lighter meter are: single register which records the flows of both velocity and displacement measuring units, and a horizontally designed positioned propeller with shaft mounted on hard rubber roller bearings, and a full opening swing action valve.

Well Water System

512. If you are planning the installation of a well water system to provide your community with great quantities of water illustrated literature is available from Layne & Bowler, Inc., Memphis 8, Tenn., which will be of help. Layne vertical turbine pumps are now available in sizes to produce from 40 to 100 gallons of water per minute.

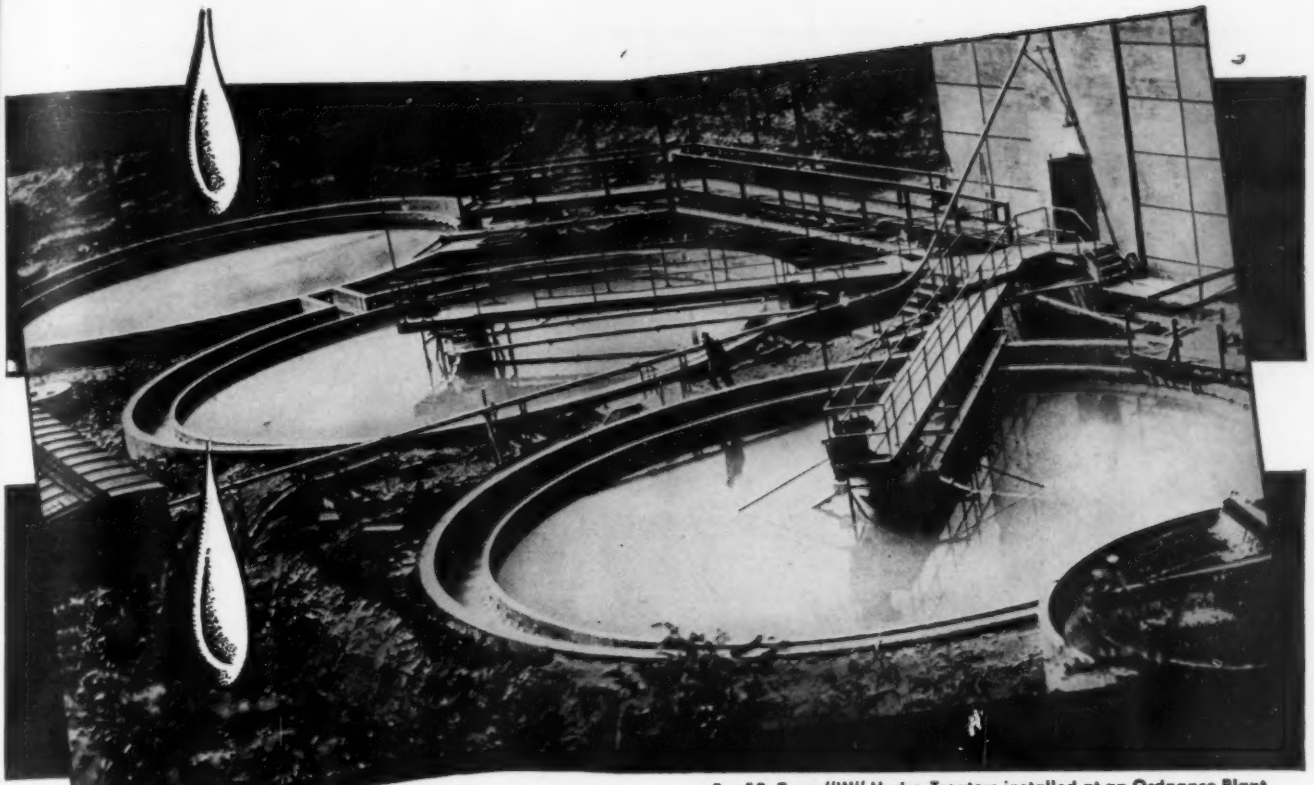
Torque Converter Balances Tractor Speed with Load

513. A new booklet entitled "Allis-Chalmers HD-14-C Torque Converter Tractor" is being offered by Allis-Chalmers Tractor Division, Milwaukee 1, Wis., to introduce its new tractor. This tractor is equipped with the torque converter which balances tractor speed with the load to give maximum operating speed. Resultant advantages are a greater percentage of work done, less gear shifting, smoother operation, cushioned protection, more accurate control and simplified drive.

Water Conditioning and Sewage Treatment Equipment

514. A complete line of water conditioning and sewage treatment equipment from Accelators to Zeolites is offered to city officials by Infilco, Inc., 325 W. 25th Pl., Chicago 16, Ill. Of special interest is Bulletin No. 1824 on Accelators for softening, clarifying, and stabilizing.

(*Continued on page 24*)



3—50 Type "W" Hydro-Treators installed at an Ordnance Plant.

WATER TO EXACTING SPECIFICATIONS with the DORRCO Hydro-Treator

Dorrco Hydro-Treators have been installed for the following purposes.

Coagulation for removal of turbidity and color
Lime and lime soda softening
Iron removal
Algae removal
Silica removal
Softening sea water

and their effective use is indicated for:

Brine purification
Oil well brine treatment
Treatment of certain industrial waste waters

Insure the kind of water you need by treating your *hard, colored,* or *turbid* water in a Dorrco Hydro-Treator. Over forty Hydro-Treators are producing water to required specifications in plants throughout the country.

The Hydro-Treator utilizes the three accepted steps for water softening and coagulation—Flocculation, Clarification, and Sludge Thickening—all in a single unit.

The Hydro-Treator occupies less space than required with conventional multiple-treatment methods. Higher flow rates, together with low installation and maintenance costs, means cheaper water. Write for Bulletin 9041.

8093

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ADDRESS ALL INQUIRIES TO OUR NEAREST OFFICE

You Can't Afford to Overlook MI-CO PARKING METERS

and here's why: They are absolutely dependable, and maintenance expense is so low it's negligible. For example: Mansfield, Ohio, with an average of 425 meters in operation since November 1940, reports less than one mechanical service call per meter per year, and the cost of repair parts for the entire lot of meters, approximately $50 each year . . . less than 12c per meter per year. Pittsburgh, with more than 1400 MI-CO meters, reports similar experiences. The same is true of Saginaw, Michigan; Spokane, Washington; Covington, Kentucky, and other cities. ¶ Wherever installed—MI-CO Parking Meters are giving dependable, low cost performance under the severest conditions. This record of achievement is the natural result of extremely rugged construction, and fewer moving parts to get out of order. ¶ If your traffic control plans include metered parking, you can't afford to overlook MI-CO. Complete information will be sent on request.

MI-CO METER COMPANY, 231 Court St., COVINGTON, KY.

Division of The Michaels Art Bronze Co., Inc., Covington, Ky.

In Canada, it's MI-CO METER Limited, Montreal 1, Quebec

Check Your Wants

Turn to page 19 for coupon

Pipeline Accessories

515. City officials interested in having complete information on pipeline accessories, including valves and hydrants, will be interested in having a copy of Catalog No. 34 from M & H Valve & Fittings Co., Anniston, Ala.

Solid Bronze Plaques

516. If you are planning some suitable tribute to veterans of your community write International Bronze Co., Inc., 36 E. 22nd St., New York 10, N. Y., for a copy of Catalog AC. International war memorials and honor rolls are now available in solid bronzes.

Traffic Signals

517. Eagle Signal Corp., Moline, Ill., will send you a catalog on its Eaglelux traffic signals. The company points to the following features that will help you meet adequate safety requirements: high intensity of light beam, dust-tight optical units, anti-sun phantom, and stationary reflectors.

Adequate Street Lighting Data

518. Bulletin GEA-2400A published by General Electric Co., Schenectady 5, N. Y., will be of value to you if you are planning street lighting for your community. The bulletin discusses the need and the benefits of adequate street lighting, tells you how to prepare a thorough study of your community, discusses good practice in applying street lighting equipment, and gives general recommendations for lighting.

Self-Propelled Maintenance Loader

519. Officials in charge of highway maintenance work will be interested in information available from Athey Products Corp., 5631 W. 65th St., Chicago 38, Ill., on the Athey Force-Feed Loader. This is a self-propelled loader for maintenance work.

Meter Totalizes Flow

520. Water works officials will be interested in the Propeloflo meter for totalizing flow in main lines. Bulletin No. 350 from Builders-Providence, Inc. (Division of Builders Iron Foundry) 18 Codding St., Providence 1, R. I., points out that this propeller-type flow meter will meter a wide range of flow with low loss of head, and is ideal for metering well water supplies.

Pipe Can Be Laid Without Trenching

521. Here is a way to lay pipe without the need of trenching. A booklet from Giant Mfg. Co., Dept. P, Council Bluffs, Iowa, discusses the Giant pipe pusher that pushes pipe up to 15-inch diameter through the ground at the rate of one to five feet per minute.

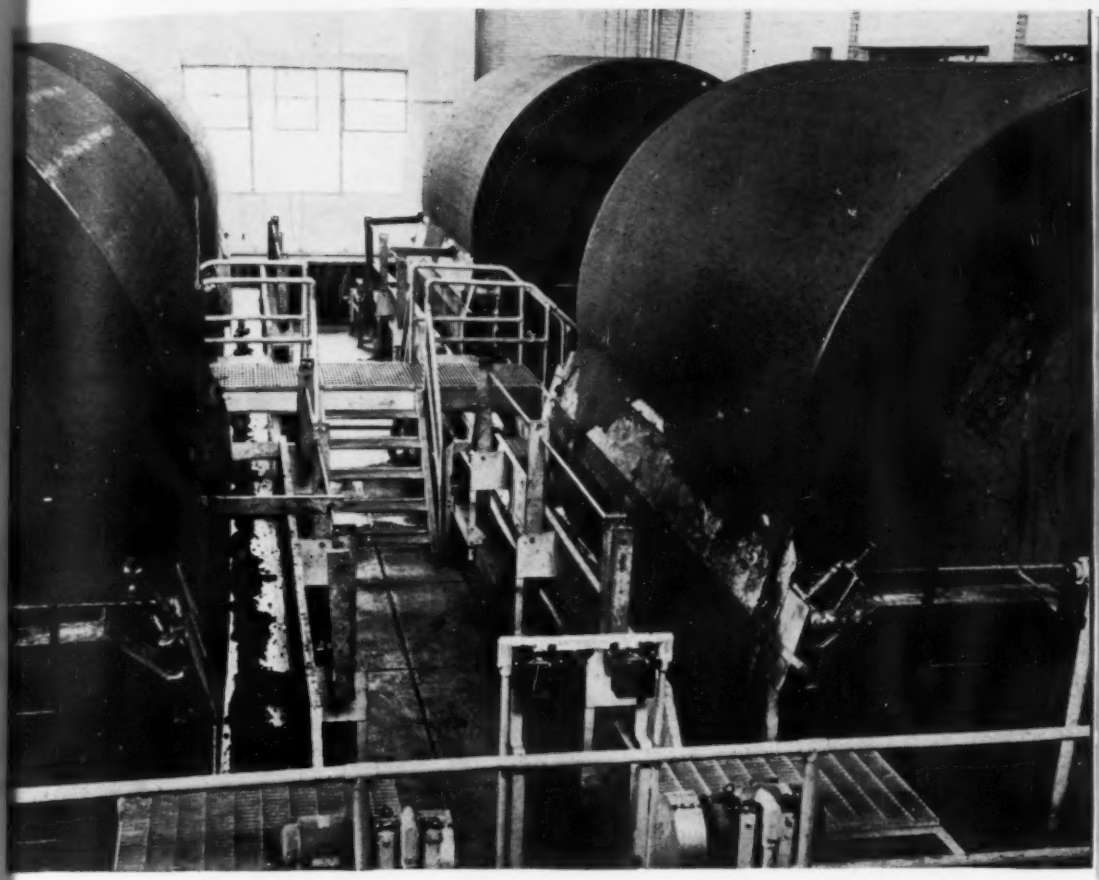
Front End Shovels

522. Front end shovels for use on industrial tractors is the subject of a bulletin being offered by White Mfg. Co., Elkhart, Ind. These shovels are available with ½ cubic yard buckets and 8 foot lift.

Engine Provides Instant Starting of Fire Apparatus

523. Great American Industries, Inc., Ward LaFrance Truck Division, Elmira, N. Y., will welcome an inquiry from you if you have a fire protection problem. Information will show you the basic advantage of a six cylinder Ward LaFrance engine which will produce peak power from cold starts in any climate.

(*Continued on page 26*)



Conkey Filters

CARE FOR WASHINGTON'S OVERLOADS

Population in Wartime Washington, D. C., jumped from less than half a million to over a million. The four Conkey sludge filters in Washington's sewage treatment plant, which was designed to service a community of 650,000, demonstrated their ability to handle the consistently high overloads caused by the population jump. To do this, the filters had to be operated almost continuously on a 5-day per week schedule.

Conkey Sludge Filters dewater over a thousand tons of dry solids every day in the sewage plants of American communities. Conkey Engineering, skilled for thirty years in building sludge filters, is available to help you specify the filter best suited to your requirements.

Send for bulletin No. 100 describing Conkey Sludge Filters

Other General American Products

SLUDGE DRYERS
TURBO-MIXERS
TANKS
SLUDGE GAS HOLDERS
STACKS

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TRANSPORTATION CORPORATION
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517b Graybar Bldg., New York 17, N. Y.
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GATX GENERAL AMERICAN

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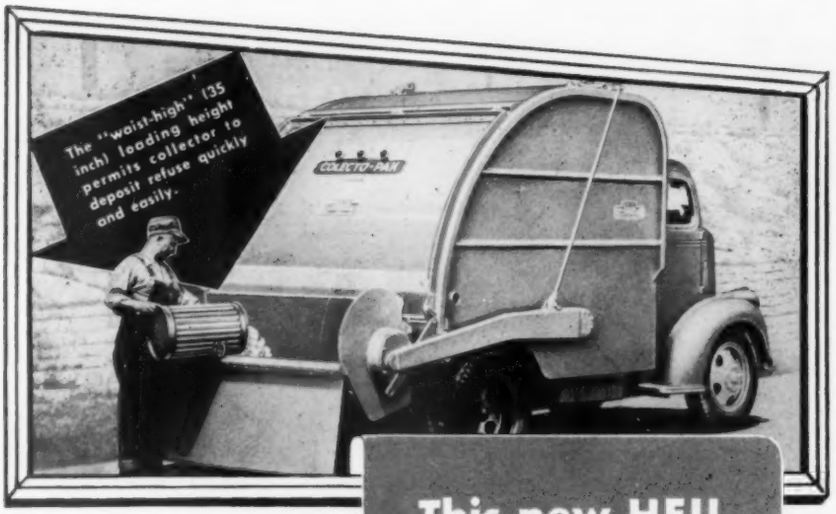

Bucket unloads in less than a minute under fingertip control.

Automatic, hydraulic-operated packer plate packs 20 yds. in a 10-yd. body.

Tapered body construction assures speedy discharge regardless of compression.

This new HEIL
COLECTO-PAK
Municipal Refuse Disposal Body

gives you

★ Low loading height
★ Double capacity
★ Complete enclosure
★ Easy maintenance

The all-enclosed, water-tight Heil Colecto-Pak is the answer to your search for a modern method of speeding-up, simplifying, and improving garbage collection and disposal.

This unit has a ¾-yard loading bucket at a 35-inch height making it extra easy to load. This "power-lifted" bucket deposits load and returns to starting position in less than a minute. At the same time the hydraulic-operated packer plate is compressing the material down toward the discharge end. It is possible to compress 20 yards of wrapped garbage into this 10-yard body.

With this unit your city has a clean, sanitary means of collecting garbage with none of the unsightly and unsanitary features imposed by "open body" collectors. Your city can feel proud of its advanced thinking in purchasing a Heil Colecto-Pak.

BH-114

Write for bulletins.

ARMY NAVY
THE HEIL CO.
GENERAL OFFICES • MILWAUKEE 1, WISCONSIN

Check Your Wants

Turn to page 19 for coupon

Construction or Repair of Masonry

524. Any construction or repair of pre-stressed tanks, reservoir lining, dams and sewers, steel lining and other types of masonry that you are planning to do might be simplified by information contained in bulletins from Pressure Concrete Co., 1st National Bank Building, Florence, Ala., on Gunite. This process is the application of concrete for either new construction or the repair of old structures.

Street and Airport Rollers

525. If you are planning street or airport construction work you will be interested in Bulletin F-446 from the Timken Manufacturing Co., Division of J. E. Ingram Equipment Co., San Antonio, Texas, describing its three-wheel variable weight roller.

Street Lighting Facts

526. Have you taken stock of street lighting facilities in your community lately to see if they are adequate? The Street and Traffic Safety Lighting Bureau, 155 E. 44th St., New York 17, N. Y., will send you details on today's better street lighting equipment and methods, news of what neighboring communities are doing, and facts on costs and savings. In addition they point out that good street lighting protects lives, gives residents of your community a greater sense of security and promotes better business.

Catch Basin and Incinerator Buckets

527. For information about a grab bucket designed especially for handling rubbish at an incinerator plant, ask for Sheet 303 and if you want a catch basin cleaning orange peel bucket, it is described in Bulletin 805 of the Hayward Co., 52 Dey St., New York 7, N. Y.

Wrench for Water Meter

528. A wrench designed for connecting and disconnecting water meter coupling nuts saves time in installing meters. Descriptive literature describing this the open-end ratchet wrench may be obtained from the Denco Sales Co., 1509 Gardena Ave., Glendale 4, Calif.

Constant Current Regulator

529. Municipalities concerned with the problem of holding current constant in series lighting for streets, highways, airports, runways, and for floodlighting will want the leaflet describing constant current regulators available form Modern Control Equipment Co., 176 W. Adams St., Chicago 3, Ill.

Tractor Tools

530. Municipalities with construction work to do will want a new eight-page folder describing the full LeTourneau tractor equipment line. This folder describes and illustrates the various current models of LeTourneau scrapers, tiltdozers, rooters, cranes, and power control units showing each type of equipment in different applications. Form G-1068 may be obtained from R. G. LeTourneau, Inc., Peoria, Ill.

Screening Device for Sewage Treatment

531. A new booklet issued by Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis., discussing the Rex Mechanically Cleaning Bar Screen describes the features including efficiency, and low cost for installation and operation. The screen requires lubrication at only five places, and the drive unit is precision built—completely enclosed—with all gears running in oil.

REFUSE INCINERATION?

SLUDGE DISPOSAL?

Solve BOTH Problems with PITTSBURGH·DES MOINES

HIGH-TEMPERATURE INCINERATOR PLANTS

Pittsburgh-Des Moines Incinerator at Stamford, Conn.; 225 tons capacity per 24 hours. Sludge, passed through digester, vacuum filters and flash dryers, reaches incinerator with 10% moisture content—forms approximately 25% of refuse charged to furnaces.

Charging floor, showing receiving bin, charging hoppers, overhead crane and bucket.

…toking floor.

Applying sound combustion principles, engineered for top performance with greatest practical simplicity of operation, Pittsburgh-Des Moines *High-Temperature* Incinerator Plants efficiently handle refuse and sewage sludge without smoke or odor nuisance.

Use our assistance in planning your needed installation *now* and expedite construction. Determine your size of plant, location, costs, financing and other factors, letting our wide experience serve you in consultation. Write or wire our nearest office!

PITTSBURGH · DES MOINES STEEL CO.

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NEW YORK, ROOM 917, 270 BROADWAY · CHICAGO, 1216 FIRST NATIONAL BANK BUILDING
DALLAS, 1217 PRAETORIAN BUILDING · SAN FRANCISCO, 619 RIALTO BUILDING
SEATTLE, 520 EIGHTH AVENUE, SOUTH

WIRE SEALS and SEALING TOOLS

INSIST ON AMALEAD

SEALS OF MERIT—for EVERY PURPOSE

For use on parking meter coin containers, water, gas and electric meters. Seal shown is actual size. Longer wire lengths if desired.

Padlock type seals for meters of all types available. Also coin bag seals and sealing tools.

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Est. 1879

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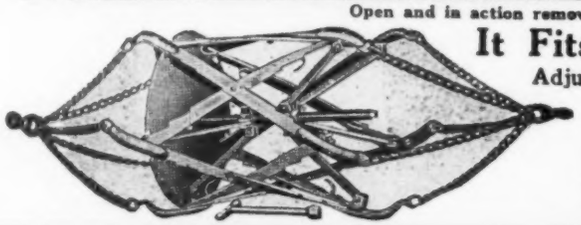
Self-locking car seals for automatic voting machines, water and steam valves—no sealing tool is required. Actual size of seal illustrated above is 3/8" x 8 1/2".

Write for samples, literature and quotations

EXPANDING ROOT CUTTER & SEWER CLEANER

Open and in action removing roots and caked sediment like this.



It Fits in on Every Sewer Cleaning Job

Adjusted in 30 seconds to fit any sewer from 8 to 30 inches.

Will clean the entire sewer wall, top, and sides as well as the bottom, cutting and removing the roots and caked sediment, putting the sewer system in almost 100% clean condition.

Write for our new catalog on complete sewer cleaning equipment.

EXPANDING SEWER MACHINE COMPANY

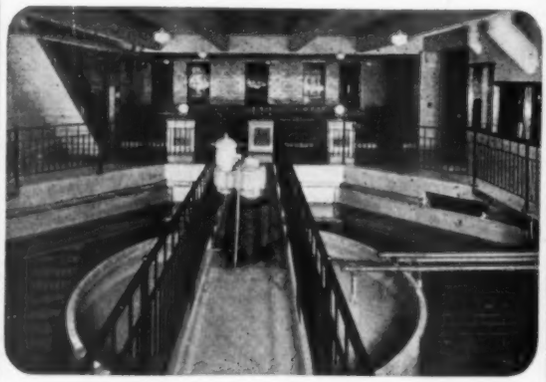
108 East Walnut St. Nappanee, Ind.

By this sign you will know

INFILCO

Half a Century of Experience is back of the **Water Conditioning and Sewage Treating Equipment Infilco Designs and Builds for You.**

Take advantage of this. Standardize on Infilco Products—everything from Accelators to Zeolites. Place undivided equipment responsibility squarely on the shoulders of Infilco. You'll get better results.



2,000,000 g.p.d. Accelator Softener at Antigo, Wisconsin

There are Accelators for Softening, Clarifying and Stabilizing—and you can't beat them for *PERFORMANCE* and *ECONOMY*. Ask for Bulletin 1824.

INFILCO INCORPORATED

325 W. 25th PLACE, CHICAGO 16, ILL.

M H

High Quality

VALVES HYDRANTS

AND WATERWORKS ACCESSORIES

M & H products, including pipe line accessories, are well known for high quality of material and expert workmanship. They are made according to standard specifications and have been used for many years throughout the country. Write for Catalog No. 34.

M & H VALVE

AND FITTINGS COMPANY

ANNISTON, ALABAMA

Vol. LXI, No. 1 The American City January 1946

Public Relations for Municipalities

This new department, to be conducted by THE AMERICAN CITY with the aid of municipal officials, publicity specialists, and others, will be a continuation and expansion of the series of articles by Phillips Bradley published in most of the issues of this magazine from 1941 to 1945, first under the heading "Local Government Is News," and more recently, "The Human Side of City Hall."

Readers who have developed effective methods of reporting or of education in good citizenship, through the printed word, the radio, public meetings, motion pictures, or otherwise, are invited to contribute ideas and illustrative material for use in this department.

Little Rock's Little City

By KEN FRANCIS

TWENTY-THREE school students of Little Rock, Ark., are learning the functions of city government first-hand this month, as a result of a unique "Little City" election held in December. Sponsored by Mayor Dan T. Sprick, the City Recreation Department and two civic clubs, the student-election was a huge success, with 92 candidates competing for offices.

The youngsters were inducted into the offices of mayor, city clerk, municipal judge, city treasurer, city attorney, and 18 alderman's posts January 1. During their six-month terms students are studying everyday city government practices under the guidance of city officials and they will take over the reins of city government for a full week. Also, they plan to serve after school hours daily and on Saturdays alongside the regular municipal employees in city hall offices.

The student officers were elected to their coveted positions in primary and general elections on December 15 and December 22, in which more than 4,000 public and parochial school students participated, and radio newscasts and city editions of local newspapers carried the early trend of the election to the thousands of interested townspeople.

Campaign Expenses—$5 Maximum

The elections were held in strict democratic manner. Even the twenty precinct polling stations were the same ones used in public elections in Little Rock biennially. Campaign expenses were held to a strict $5 maximum, but this restriction did not daunt candidates who campaigned extensively, using tried and true methods of big time politicians.

One candidate, who kept his campaign expenses below the $1 mark, added a Hollywood touch to his drive for votes from fellow students by dropping 10,000 leaflets from an airplane over the junior and senior high school areas. This did not cause his expense account to jump, since the promotional measures including the leaflets, were donated by followers.

At football games, in school corridors and classrooms, in downtown store windows, in school assembly periods, and in special rallies at schools and recreation centers, candidates put on shows designed to attract votes their way. All standard political propaganda, platform promises, leaflets, pamphlets, candidate cards, used in regular elections were exploited by the youthful office seekers along with a few innovations.

Paul Reagan (left) and Kelley Green were the leading candidates for Little City Mayor. Kelley Green won

A Parade and a Ball

A parade of all candidates and their parties was staged a fortnight prior to the primary election. Crowds of busy Saturday shoppers and school children thronged the main streets of Little Rock to witness this youth rally. The four-block-long parade displayed all sorts of propaganda with 1946 cars, hearses, and mules carrying many of the campaigners. Some candidates patterned their programs after those of nationally-known politicians and made good use of string, military, and swing bands.

On Friday, December 14, immediately preceding the primary, more than 2,000 students attended a Political Ball at Joseph T. Robinson Memorial Auditorium. Funds for the program, which included a "name band," were contributed by the Pfeifer Youth Foundation — a philanthropic organization for the promotion of youth activities—and the city. It was supervised by the Recreation Department. Candidates were introduced at intermissions by officials of the Little City Democratic Central Committee.

It was a youth program throughout. The Little City Democratic Central Committee was composed of 27 boys and girls selected at random from the seven junior and senior high schools. This committee drafted all plans for

Little City Democratic Central Sub-Committee. L. to r.: Russel Wycoff, Secretary; Betty Nan Kober; John McClanahan, Vernon Markham, Chairman; Frank Isbell, Judy Kohn, Don Dhonau. The Central Committee, which had 27 members, made all the plans for the election

the election in several meetings held in the Little Rock Council Chamber.

It was decided to allow students enrolled in grades seven to twelve a vote in the Little City government, but a youngster had to be in the eighth grade or above to qualify as a candidate for office. A member of the adult advisory group questioned the committee on this decision and Chairman Vernon Markham, seventeen-year-old high school student, replied that "persons 21 years old were entitled to vote in a national election, but had to be 25 to hold an office."

Application and corrupt-practices pledges were drawn up by the committee, a December 8 deadline set on the filing of candidates and the ballot boxes and polling stations arranged. One hundred clerks and judges selected by the Central Committee carried out the election. Civics and government teachers in the schools showed the youngsters the proper methods of casting a ballot, etc. Each school student was issued a voter's identification card as a poll tax receipt. This entitled him or her to vote. It was stamped after voting in the primary and taken up after voting in the general election. The name and address of the voter had to be on the card so no one would vote in the wrong ward.

Mayor Sprick was the author of the plan and upon announcement of the program asserted that he "hoped Little Rock school students may develop a closer relationship with their city government and receive a better understanding and knowledge of its problems, aims, and functions.

"I feel that, since school students are the leaders of tomorrow and that within a few years they will take over the reins of government here, this program will certainly help them to equip themselves better with knowledge of civic responsibilities," the Mayor stated.

Besides the Mayor, City Recreation Director William K. Amo, who has a wide experience in civic recreational activities, was instrumental in putting the program over successfully. The Pulaski Heights and Little Rock Lions Clubs, local schools and P.T.A. Associations aided the program also.

A number of wholesome projects are in the minds of the youngsters upon which they expect to begin work shortly. Little City Government is one phase of the broad youth recreation program of the City of Little Rock.

Handbook for City Employees

AN EMPLOYEE who knows exactly what his job, duties, rights, and privileges are is happier and more efficient than one who doesn't. The City Service Commission of Milwaukee, Wis., accepts this fact and has acted to help every city employee by collecting questions most often asked by new workers and presenting them, together with general information concerning the organization, in an excellent 24-page booklet entitled, "Your Job With the City of Milwaukee." The authors point out that the pamphlet is not a book of rules, but is offered "in the hope that it will answer many questions on which you may desire information and that doing this may foster and encourage a spirit of enthusiasm and loyalty for the service of the city."

The booklet is divided into the following sections. A Word of Greeting; What Is the City of Milwaukee?; Your Place in the Organization; Questions You May Naturally Ask (which include tenure, group insurance, transfers and promotions, vacations, etc.); Duties and Responsibilities; and the Conclusion. In greeting the employees, the commission says, "Every worker has a right to know about his relationship to the city, about his duties and privileges as an employee, about what the city is doing, and about the 'why and wherefore' of his job." The new worker is especially cautioned always to ask his superior about questions which puzzle him and thus avoid the costly errors of guessing.

The organization of which the worker is a part is defined as a "municipal corporation" with much the same rights, powers, and responsibilities before the law as any corporation in the business world. The main difference is, of course, that the people of the city and not stockholders, customers, or depositors, are the employers. Within the corporation, the handbook points out, each worker is responsible first and foremost to his immediate superior and should take any questions or grievances to him and not to a higher officer, since each office has its own functions, responsibilities, and line of authority.

Privileges and Responsibilities

Queries most often addressed to the City Service Commission are presented in brief question and answer form and they cover a wide field. Among the privileges are security of position, seniority rights, pension rights, pay adjustments, sick leave and vacation privileges, rights in case of lay-off due to lack of work or funds, right of appeal from disciplinary actions, relationship to employee organizations, and opportunities for promotion. The answers are brief but explain clearly the reasons for the policy concerned.

The privileges of the city employee carry with them certain responsibili-

ties which are discussed next. First it is pointed out that the worker must "regard the service of the city as a trust" and must not only do his work properly but cooperate in every way to make Milwaukee a finer city. In his relationships with the public, the city employee must respect the confidential aspects of the city's business and avoid answering questions on which he is not informed. Each position has responsibilities and obligations of its own which must be recognized, the handbook emphasizes.

In conclusion, the booklet points out that the material offered is not a set of specifications, but is rather a suggested course of cooperation. Each employee must bring to his job his own initiative, loyalty, and ideals which will make him a respected member of the organization.

Village Employs Public Relations Counsel

THE Incorporated Village of Rockville Centre (Long Island, N. Y.) has shown its firm belief in the value of public relations by retaining an outside public relations counsel on a yearly basis. This firm, Kennedy-Lawson Company, has no other connection with the village, and furnishes strictly professional services.

The principal task of the public relations counsel is to bring about closer relations between the village government and the taxpayers, in a non-political manner. The attempt is not to "sell" incumbent officials to the public, but rather to keep the public informed in as many ways as possible of the official acts, routine or otherwise, of the village government.

This Month in ROCKVILLE CENTRE

Vol. I, No. 5 — December, 1945

Holiday Greetings

PARKING METER HEARING PLANNED

As a part of its study of a number of suggested methods of solving Rockville Centre's growing parking problem the Village Board is considering parking meters for business section streets. Though the Board is not committed to the meters legal machinery is being set in motion to permit operation of these parking devices if they should eventually be chosen as the best solution of the problem.

The first step will be a public hearing on an ordinance to authorize the meters, but that does not mean that the meters will necessarily be installed, according to Mayor W. Harry Lister. He explained that the hearing is largely to give interested merchants and motorists a chance to discuss the matter with the Board.

The Board, realizing from the first that parking is a necessity both for merchants and their patrons wants to work out a solution that will be agreeable to both, Mayor Lister explained in urging the public to inform themselves of all the advantages and disadvantages of parking meters before adopting a position for or against.

MAYOR ASKS HOLIDAY SAFETY MEASURES

Mayor W. Harry Lister asked the people of Rockville Centre to help keep the Village free of holiday accidents during the Christmas season. He expressed the hope that citizens of Rockville Centre will actively cooperate with the National Safety Council and 130 cooperating organizations in making this an accident-free Christmas.

"This is the Christmas we have been awaiting," he said, "this is the Christmas when the spirit of peace should permeate every heart. An accident will destroy that spirit for members of any affected family. Therefore, let us make an effort to avoid accidents during the holiday season.

"If we are careful, considerate and courteous, we can further this cause for ourselves and our fellow man. Above all, let us remember to hold down our speed on the streets and highways to a sensible figure, especially since cars are far below pre-war standard."

The work of the public relations firm has little to do with press-agentry, inasmuch as the community is not a vacation or resort village, but a solid, upper middle-class suburban residential section. Some attention is paid, however, to publicizing the community "on the outside." A brochure describing the highlights of the village is in course of preparation and will be available to non-residents.

But the main work of the counsel is to keep a harmonious condition within the village. Toward this end, press conferences are held regularly, at which representatives of two local dailies and one local weekly are invited to query department heads about all municipal business or projects. A miniature newspaper, entitled *This Month*, and containing an account of the events of the current and prior month, is enclosed with the electric light bills which are sent to every house and place of business. The articles in this "newspaper" are written factually and with an endeavor to avoid coloring or "angling."

An annual report, giving the financial and business resume of every village department, is to be issued.

In addition, the Kennedy-Lawson Company makes available a representative twice weekly and more often on request, for consultation with the village board of trustees on methods of bringing matters before the taxpayers.

Town Meeting Arouses Interest in Improvement Plan for Panama City

A VIGOROUS town meeting attended by some five hundred persons to discuss a Chamber of Commerce proposal for a $3,500,000 improvement program for Panama City, Fla., recently culminated a year of study by the Chamber. The program includes a $1,[illegible]00,000 sewage disposal system, a $5[illegible]00 street improvement program, a $1,300,000 waterfront development, and a $200,000 airport improvement program.

Hearty approval of the program was indicated, according to a news story in the local newspaper, though some opposition to the imposition of a 2 percent general sales tax, which is the method of financing favored by the Chamber, was voiced. The Chamber's Manager, James R. Asbell, pointed out that to finance the improvements by an increase in the ad valorem tax rate would be, in the opinjon of the Chamber, an unfair burden upon the 2,200 taxpayers in the community. The Chamber estimates that the sales tax will yield about $225,000 a year.

The entire question will be decided by the voters in a referendum. As the newspaper remarked editorially, "There's a future ahead of us, and we've got to meet it, meet it not like an ostrich, but with an aggressive plan."

Public Relations—What Is It?

Public Relations—what is it? Actually, it is relations with the public. Good public relations depends on making and keeping friends. This applies to an individual, organization, government, to every institution in our society. Good public relations depends on action that will maintain and build such sound relationships, and on the public understanding of such action. . . . In a democracy like this country it is not the policy to threaten, intimidate, nor coerce those whom we want to follow us. The public follows its leaders because it wants to follow them. The relationship between leader and public is based on mutual understanding.

EDWARD L. BERNAYS
in "Public Relations" monograph, Bellman Publishing Co., Boston 8, Mass.

Governor Tugwell Appointed to University of Chicago Faculty

REXFORD GUY TUGWELL, governor of Puerto Rico, has been appointed professor of political science in the University of Chicago, effective July 1, 1946, President Ernest C. Colwell announced recently.

Mr. Tugwell, at present governor of Puerto Rico, will teach in the political science department of the university, as well as direct a new program of education and research in planning. This program which opens January 1, will be conducted in cooperation with the Chicago chapter of the American Institue of Architects, the Public Administration Clearing House, and agencies affiliated with it, such as the American Society of Planning Officials, the International City Managers' Association, the American Municipal Association, and the National Association of Housing officials.

Encouraging Invention by Municipal Employees

By REBECCA B. RANKIN
Municipal Reference Librarian, New York City

FEW PEOPLE are aware that the city of New York encourages invention among municipal employees. This is not altogether an altruistic act on the part of the city, because the city itself gains a very considerable advantage in making use of these technical advances. However, it is believed to be unique for a municipality to assist men who have ideas for improvements in the use of machinery in city departments and to secure their patents for them.

In 1937 a policy in regard to inventions was adopted whereby the city employees who develop new devices to help in their daily work are privileged to ask the city to apply for patents for them. The city files for the patent in the name of the employee who is the inventor, and the patent is issued to the individual; but under a so-called "shop right" rule the city has a free license as the employer to use the invention for all municipal purposes without payment of any royalty.

The City Is Protected

The city is always protected in the event of patent litigation involving similar constructions, and the city employee has no expense and full assurance of best legal advice in securing his patent, and the privilege to sell it to other cities or corporations.

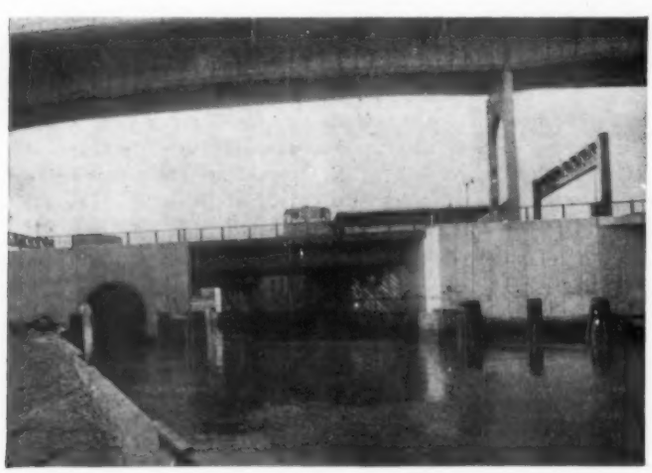
The recognition of city employees for inventions has resulted in the introduction of a large number of labor-saving tools, devices, and chemical processes for use in municipal departments. A few of the most interesting ones on which patents have been applied for by George H. Mitchell, patent counsel, are the new "draw" bridge on Hamilton Avenue over the Gowanus Canal, the only one of its kind in the world. It is called the Skew Bascule Bridge and was invented by Clinton D. Hanover, Jr., Chief of the Bureau of Bridge Design in the Department of Public Works. The street crosses the canal at an acute angle—it is not a square crossing.

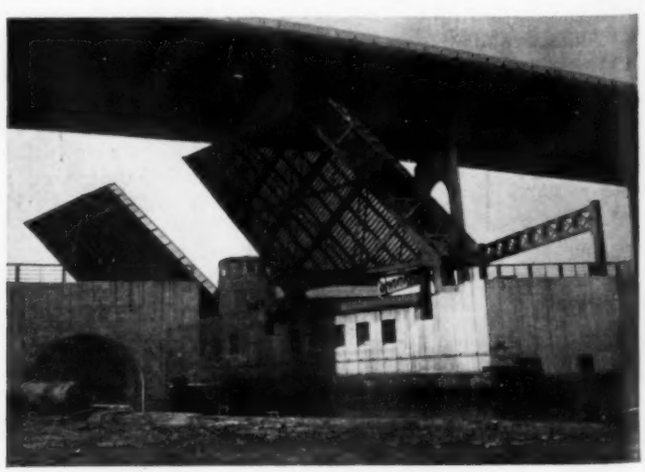
A labor-saving device on which a patent has been allowed is a tire stripping machine for removing motor vehicle tires from their supporting rims, the invention of Joseph S. Plumeau and Carl C. Ottoson of the Department of Sanitation. The saving of man hours over the old hammer and chisel method is incalcuable.

Accurate Testing of Milk

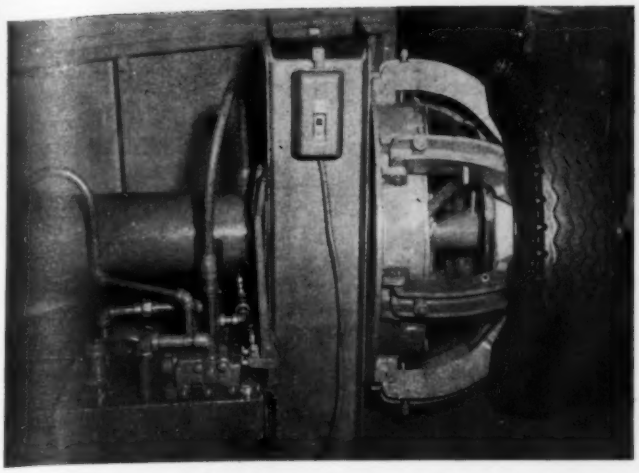
Pasteurization insures the safety of dairy products by requiring that such products be subjected to a temperature of 143 degrees Fahrenheit for 30 minutes, which experience has shown is sufficient to destroy all pathogenic (disease producing) organisms which may be present in the unpasteurized

Loading the hopper of a late model New York City refuse truck. From the hopper refuse is conveyed into the truck body by hydraulically operated flights carried by chains somewhat like an escalator





The Skew Bascule draw bridge over the Gowanus Canal in New York City at a place where a street crosses the canal at an acute angle. It was invented by Clinton D. Hanover, Jr., Chief, Bureau of Bridge Design, Department of Public Works



This tire-stripping machine, which is called a "Tire Press," removes motor vehicle tires from their supporting rims much faster than the hammer and chisel method could

product. Harry Scharer, chemist of the Department of Health, has perfected an enzyme test upon which a patent has been granted which indicates when the pasteurization process has been ineffective or inefficient. This test is so sensitive that it will indicate when the temperature is even one degree low, or when only 25 minutes of heating is used instead of the required 30, and will even indicate the presence of as little as one-tenth of one percent raw milk which may have inadvertently leaked into the pasteurized milk during the process.

Another labor-saving device—this one developed by J. S. Plumeau and E. C. C. Miller in the city's Motor Repair Shop, and on which a patent has been granted—is a machine for replacing broom bristles used in the large mechanically-operated brooms used for sweeping the city's streets. Whereas formerly it took two men seven hours to make up a broom, this equipment will turn out one in from 18 to 21 minutes.

The fatal results of the time bomb found in the British pavilion of the World's Fair on July 4, 1940, showed the necessity for having some type of conveyor to transport unexploded bombs to an isolated spot where they might be detonated without danger to life or property. For this purpose three members of the Police Department and Mayor LaGuardia designed a bomb carrier on which all four persons are now the patentees.

A Proposed Bill of Rights for Cities*

FRED T. VAN LIEW,
City Solicitor of Des Moines, Iowa

1. **Representation.** — Every governmental activity of the nation or the states involving, jointly or separately, the interests of cities, should include city representation. If cities continue to be taxed to the limit of their resources for state and federal aid, then they should be worthy of representation in formulating state and national policies in time of peace as well as war.

2. **Home Rule.** — Before cities can ever be said to be on a basis of full community freedom with the states we should have home rule, which would give to the citizens the right to rule their cities as they see fit without interference from federal or state authorities, except in affairs wholly and exclusively outside the community interests of cities.

3. **Discrimination.** — The discrimination by some states in their legislatures, whereby cities are prohibited from having fair representation, should be repealed and city representation placed upon an equal population basis. Legislative power should not depreciate when the citizen becomes a part of a municipality.

4. **Freedom of Transportation and Communication.** — Municipalities should have the freedom of intercity communication and transportation between states, both by land and by air. We should not only have a system of communication and transportation connecting all our large cities and centers of trade and industry in time of peace, but they should be so connected and coordinated as to constitute a national system of defense and transportation in time of war.

5. **Trade Barriers Abandoned.**— All trade barriers between states should be lifted. Such barriers are a menace to the life and prosperity of every municipality.

6. **Social Security for City Employees.**—In the matter of social security legislation the municipal employee should be on the same basis as all other labor.

7. **Coordination in Post-War Period.**—In post-war planning the cities, the states, and the nation should collaborate in the formation of plans which will solve our problems upon a national basis by coordination of all levels of government.

8. **Replenish Tax Losses.** — The federal government should compensate cities for the loss of taxes upon property taken for any war purpose. Such loss of revenue is followed by an increase in the burdens upon the cities for the protection of life and property. National defense should be a burden on the entire nation.

9. **Preference in Purchases.**—In the disposition of surplus war materials and property, cities should have preference in purchases from the federal government and the states.

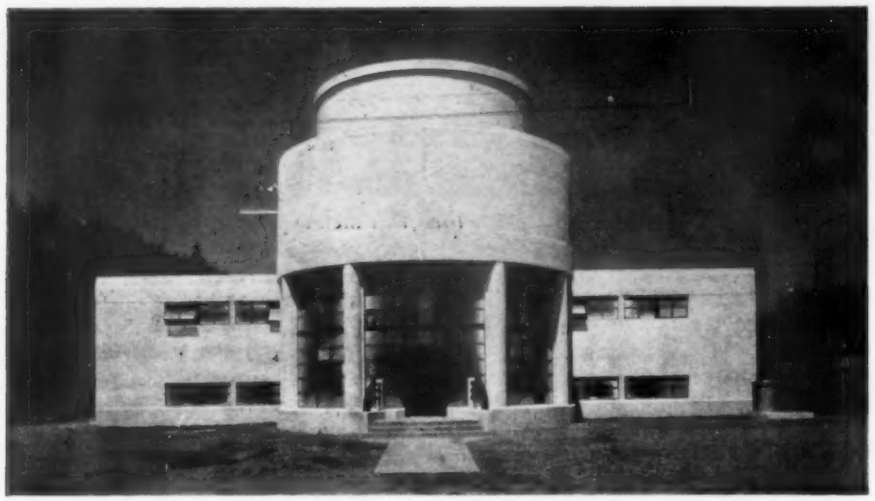
10. **Conservation of Resources.**— In addition to the foregoing, inter-relationships of local, state, and national governments in financing and rendering public service, there should be established and maintained a system of unified action with respect to health, education, housing, and conservation of resources.

* Submitted to the annual conference of the National Institute for Municipal Law Officers on December 3, 1945 by its retiring president.

"Pure, Sparkling, Mountain Water"—Rejected

The selection of the proper source of water supply required careful and thoughtful study at Longview, Wash. The plant that this city finally built demonstrates how these analyses were applied

By A. H. LABSAP
Manager
Longview Water Department



Longview's new filtration plant is functional as well as attractive. Note how the water tank on the roof blends with the front of the building

WITH THE world so full of complex and awe-inspiring problems that require decisions ranging all the way from what to do with the atomic bomb to what to pay an automobile worker in Detroit, it seems boring to talk about a humdrum thing like a water supply problem—that is, of course, boring until you have the problem before you face to face, and humdrum until you actually make a decision about how to solve it. The atomic bomb is an imponderable, awesome sort of thing that nobody seems to have any idea what to do about except a few scientists at Oak Ridge and some generals in the Pentagon. However, Longview's water supply is something that *everybody* in our city has a personal, intimate, and dominating interest in, and a firm understanding at least of what they want coming out of the tap. If you don't believe it, sit by our telephone some day and take a few notes.

Water Works Diplomacy

Dick Cannard, who manages the Manitowoc, Wis., water works, is my idea of an ace diplomat. Although his city is more than a half a continent away from Longview, being concerned over a water supply problem is something that we could share in common. The way Dick tells it, part of his town wanted well water because it tasted better, while the rest wanted lake water because of the dependable supply. He wound up by building one of these new radial-type wells near the edge of Lake Michigan selecting his aquifyer in such a way that he drew both on the ground-water table and the infiltrated supply from the lake. Thus, as he tells it, the well advocates have well water, the lake advocates have lake water, and the city has a large, economical supply, and everyone is satisfied. Secretary Byrnes ought to have him on his staff.

Longview's Six Possible Sources

We couldn't solve our problems so smoothly. We had six separate and distinct possibilities for a water supply and we had to chose one of them. Unfortunately we just couldn't blend them all together. In order to be sure that our decision was sound, we drew on the advice of not one, but three reputable firms of consulting engineers, and when all three turned up with the same recommendation, we in the water department felt assured that we were on the right track, even though some of the townspeople didn't fully share our opinion.

In the last analysis, the decision boiled down to this: should we go at relatively great expense to the Kalama River and tap it to get sparkling water "undefiled" by sewage from any upstream communities and requiring no treatment; or should we tap the Cowlitz River, filter it to protect ourselves from the pollution upstream communities are discharging into it, and distribute what is from a sanitary engineer's standpoint virtually the same product. The other four sources pretty well eliminated themselves.

Like the Manitowocians, our people divided themselves into two camps: those supporting the pure, unfiltered, faraway source; and those willing to take the more economical, slightly polluted source that required filtration before use by the city. The supply was further cursed by the fact that health authorities had forbidden swimming in the polluted Cowlitz River because several sewers empty into the river at points used by swimmers.

The Decision and Its Factors

Ours was the delicate task of deciding which we should use—a decision that we knew would be met with disfavor by some part of our community. The decision that we made must seem obvious to any municipal official who has had experience with water supply. We went to the more economical filtered supply.

The closer source, from the Cowlitz River, supplies us with a volume of water that is virtually unlimited as far as the demands of Longview are concerned. The water is soft and yields readily to ordinary methods of purification. The water that the customer receives is as soft and pure as any brought from a remote pipeline. Esthetically, there might seem to be advantages in a supply so pure and undefiled that it requires no filtration or other treatment. But if the economics of the situation don't support it, your advantages will be exposed as chiefly imaginary. No engineer, water works man, or municipal official could conscientiously advocate such a supply and feel that he was rendering his community the right kind of service.

How the Plant Operates

The plant that we built and placed in operation in July of last year incorporated all the modern features of water purification. We draw the water from the river by a carefully designed river intake and pump it with three low-lift Fairbanks-Morse vertical centrifugal pumps to the filtration plant.

These pumps operate against a 40-foot head.

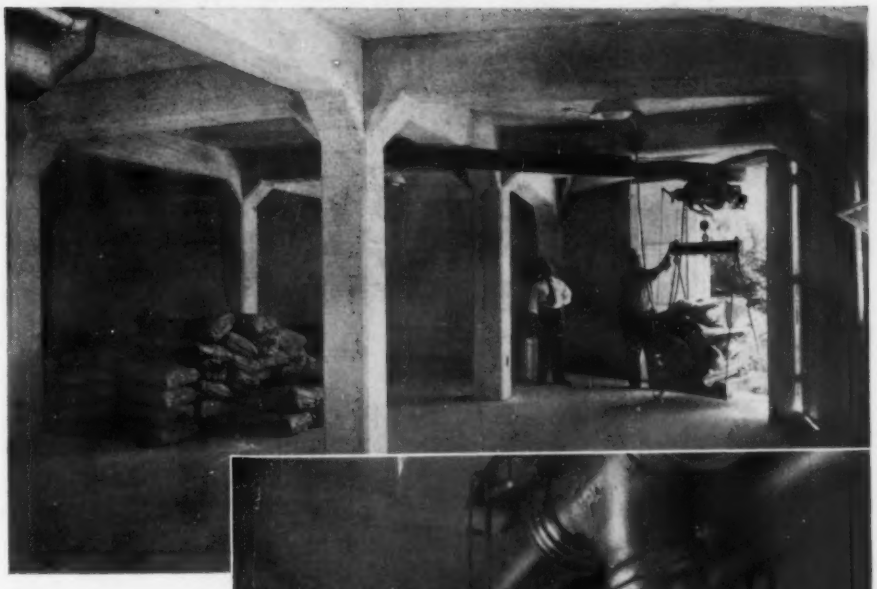
Once in the plant, the water receives its coagulating dosage of lime and alum fed by a pair of Omega dry chemical feeders. Three New England Tank and Tower paddle mixing machines, operating at adjustable velocities, put the chemicals in intimate contact with the water. A Jeffrey flocculator then allows the water to form its floc which settles out in a set of four coagulation basins. The settled water then goes to the four filter beds for the removal of any remaining suspended matter. Bachrach filter tables control the operation of these beds through the action of Simplex rate-of-flow controllers. The water then goes to a covered reservoir under the plant building. Here a set of three Fairbanks-Morse high-lift pumps with capacities of 1, 2, and 3 mgd respectively pump the filtered water through a 16-inch Transite main to concrete reservoirs at an elevation of 244 feet above sea level. Midway between the filtration plant and the reservoirs, a 12-inch Transite line ties in to connect with two 8-inch mains which feed through Longview's business district. This furnishes a tri-lateral connection between the filter plant, reservoir, and distribution system.

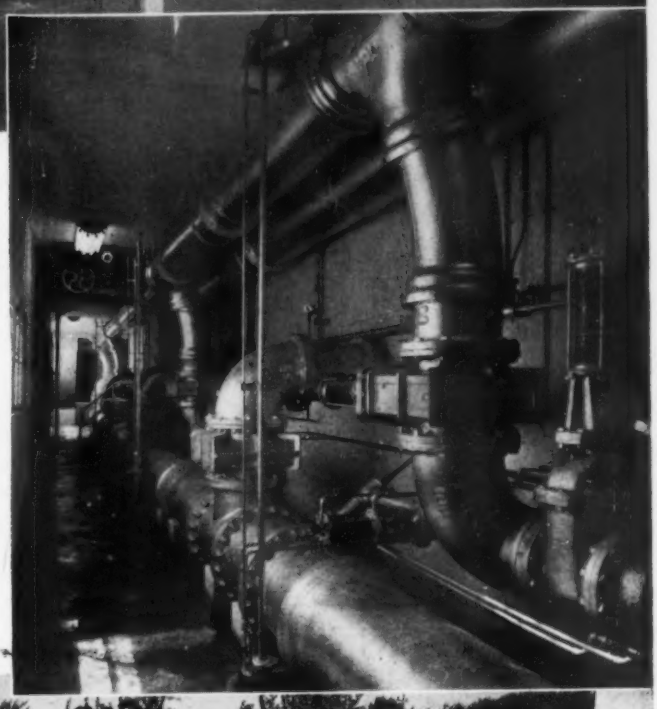
The plant as constructed has a capacity of 4 mgd. The four filters, each with a capacity of 1 mgd, are arranged together with the coagulation basins, so that two additional units may be installed in the future if advisable. However, our maximum daily demand rarely exceeds much over 2 mgd.

Operating Highlights

From an operating standpoint, the system is extremely flexible. A central control board carries switches, gages, and similar equipment that tell the operator at a glance any detail of operation. The filter tables also contain a loss-of-head and rate-of-flow gage, the former enables the operator to ascertain when the filter should be washed and the latter indicates the rate at which water is passing through the filter. The rate-of-flow controller also keeps all filters operating at the same rate, insuring a uniform quality of water. A 40,000-gallon steel tank above the chemical storage room furnishes wash water to backwash the filters.

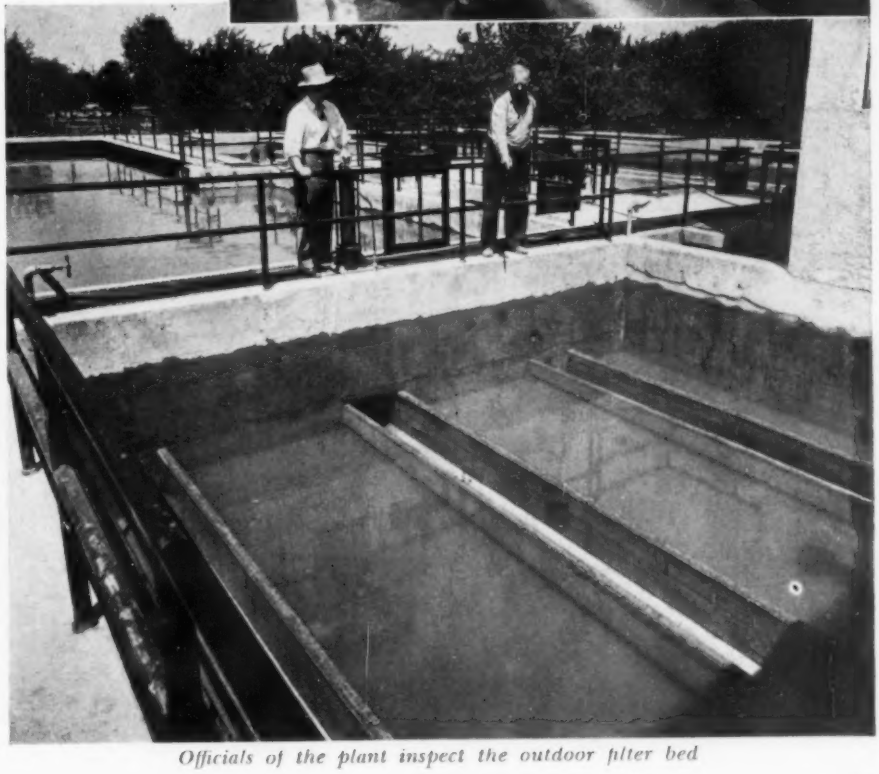
The building itself is satisfying from an operator's standpoint. The plant proper is of concrete construction and of plain but attractive appearance. The front of the building is curved so that the wash water tank, located on top, blends well with the building out-



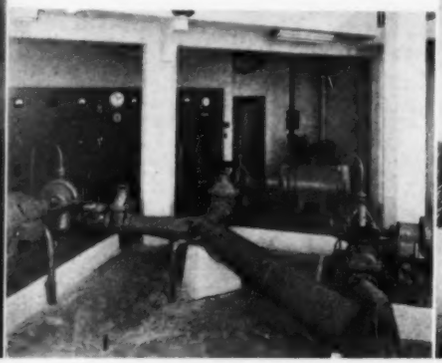


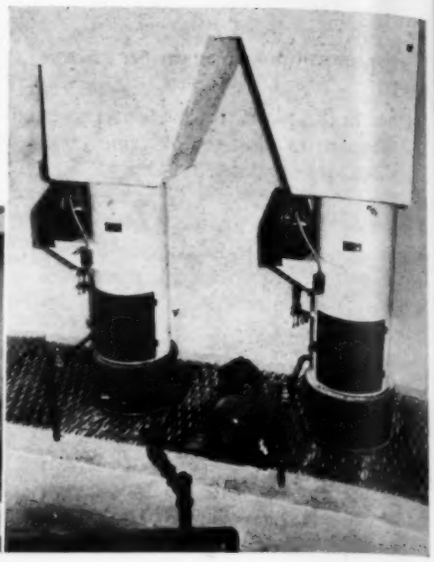
ABOVE: *An overhead crane makes chemical handling easy*

RIGHT: *Looking at the pipe gallery where the raw water enters the plant. Rensselaer hydraulic valves control the operation of the filters*



Officials of the plant inspect the outdoor filter bed





LEFT: *A view of the filter tables located on the plant operating floor*

BELOW: *High-lift pumps are interconnected by welded steel pipes*

RIGHT: *View of the chemical feeders and the flash mixer*

line. The plant is electrically heated and well lighted. Floodlights are placed over the coagulation basins for night illumination.

Operation is made easy and efficient also by the number of metering and recording devices that we have. A recording gage located on the control panel enables the operator to tell the height of water in the reservoirs at all times. We are able to account for all water pumped through meters on the wash water tanks and meters measuring the water entering the plant and going to the distribution system.

As may have already been noted, the low and high lift pumps have a total capacity of 6 mgd so that if we do need to enlarge the plant, the pumping capacity will be there.

Meets Strict Sanitation Standards

It is unfortunate that we could not, like Manitowoc, turn up with a solution that was so universally satisfactory to all concerned. But, we believe that as far as service to our community is concerned, the Longview plant will have to apologize to no one. We serve not only ourselves, but the neighboring community of Kelso under an arrangement that will prove beneficial to both of us. These improvements, together with additional reservoir capacity, construction of which is contemplated when funds are available, and the fire alarm system now being constructed, should result in a substantial reduction of our insurance rates. And, as far as the quality of water is concerned, I would like to place a pitcher of the water from our plant on the table alongside of a pitcher of water from the sparkling far-away source, and challenge anyone to tell the difference. He'd have a 50-50 chance—no better.

The plant was constructed at a cost of $200,000 and the pumping station and connecting cost $50,000. John Cunningham and Associates, consulting engineers, designed and supervised the construction of the Longview filtration plant.

Author of Our Front Cover Message and His Successor

THE advice to municipal officials not to let the termination of the war nor the unsettled present economic status upset our planning activities comes from John C. Stevens, President of the American Society of Civil Engineers and senior partner in the well-known western firm of consulting engineers, Stevens & Koon, Portland, Ore.

Mr. Stevens has done notable work in the fields of water supply, hydroelectric power plants, and sewage treatment. In addition he is the inventor of many engineering instruments and is a senior partner in the firm of Stevens & Leupold Instruments.

John C. Stevens

His long career in civil engineering has been marked by such highlights as his service as Director of the Society from 1932 to 1934 and his classic study on hydraulic subjects which resulted in his winning the American Society of Civil Engineer's Norman medal in 1937 for his paper on "The Silt Problem."

W. W. Horner

Mr. Stevens will pass the presidency of the American Society of Civil Engineers to W. W. Horner another well-known consulting engineer specializing in municipal and hydraulic practice, during the Society's annual meeting, which is being held in New York this January. Mr. Horner, before establishing his consulting practice, held various positions in the engineering organization of the city of St. Louis and was responsible for the design of sewers and paving. From 1918 to 1933 he was Chief Engineer for Sewers and Paving for this city and constructed the Des Peres Drainage Project, the Oakland Express Highway, and the St. Louis municipal airport.

In 1933 he established a consulting practice in St. Louis specializing in municipal sanitary and hydraulic problems. He also continued with the city in the capacity of Consulting Engineer. His other clients have included numerous cities and sanitary drainage systems in the middle west.

Novel Vacuum Filter Development Boosts Output and Improves Sludge Quality

The Perth Amboy, N. J., sewage treatment plant substitutes cord wound around the vacuum filter drum for the customary filter cloth and obtains significantly improved operating results

By LOUIS P. BOOZ
Consulting Engineer
Perth Amboy, N. J.

EXPERIMENTS with vacuum filtration at the Perth Amboy sewage treatment plant involving the use of a light cord, measuring approximately ¼-inch in diameter, wound around the filter drum in place of the standard filter cloth have yielded results significant enough to be worthy of attention. Preliminary analyses have shown that the cord-type filter will more than double the output and will maintain this high rate continuously because of the fact that a spray arrangement thoroughly washes the cord at each revolution of the drum. The dewatered sludge cake is firm with a relatively low moisture content.

The Perth Amboy sewage treatment plant is of the chemical-mechanical type and has been in successful operation for eleven years. It treats an average of five mgd consisting of domestic waste combined with many types of industrial sewage. This plant is one of the first of its type to be built in the East and treats the sewage in the following manner.

The influent to the plant receives a dosage of ferric chloride and lime in order to promote sedimentation. After thoroughly forming a floc with the aid of air, the sewage goes to circular clarifiers where the floc settles, taking along a great portion of the suspended solids. Most of the unsettled solids and the floc which remain from the chemical treatment are removed from the effluent by Laughlin magnetite filters. These filters, incidentally, have worked excellently, adapting themselves to the usual high variations in flow that occur during storms and maintaining an admirable record of solids removal.

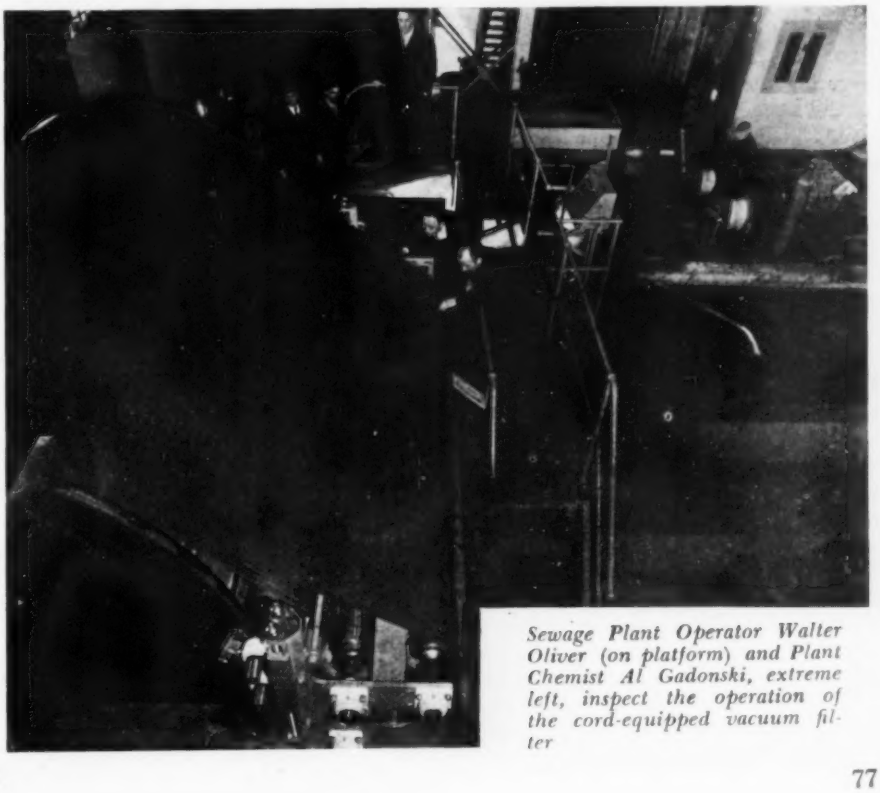
The sludge is pumped from the bottom of the clarifiers and after conditioning is dewatered by two Conkey vacuum filters. The sludge is mechanically conveyed to a storage bin and carted from the plant in trucks.

Vacuum Filtering Experience

The vacuum filters at this plant are eight feet in diameter and ten feet long, of the standard type, with the periphery covered with cloth over a screen. The cloth is held in place with the usual wire windings. These filters are well constructed and have stood up excellently as far as mechanical maintenance is concerned.

Operating results in the dewatering of sludge have varied to a marked degree at times. The presence of certain materials in the sludge has at such times caused an almost complete failure in the ability of these filters to dewater that particular sludge. Some types of industrial waste have resisted all efforts at vacuum filtration because of their tendency to completely clog the pores in the filter cloth, as do some types of vegetable matter also. Since we treat the industrial wastes of many diversified industries at this plant the operation of the vacuum filters and the daily removal of sludge from the plant by this dewatering process is most necessary. Operations have sometimes been handicapped to the extent that in order to filter some of these materials the filter cloth had to be washed after each revolution of the filter drum. This was discouraging and tedious.

While looking for a solution to our problem we had occasion to investigate the possibilities of the Wright Cord Filter. After a thorough study of its design and construction we believed that the fact that a thorough washing of the filtering medium after each revolution accomplished automatically what we sometimes had to accomplish in a laborious manner with our cloth-covered filters, indicated that this filter might be what we needed. As the conversion of a cloth-covered filter by adding the Wright cord attachment was simple—it involved only removing the cloth and winding the drum with cord in its place with the addition of the grooved guiding shafts—we were confident that something definite could be learned



Sewage Plant Operator Walter Oliver (on platform) and Plant Chemist Al Gadonski, extreme left, inspect the operation of the cord-equipped vacuum filter

The Perth Amboy sewage treatment plant was among the pioneer users of the flexible chemical-mechanical treatment process in the eastern portion of the United States. Its careful use has given good results with this city's difficult, highly industrialized waste. The two magnetite filters have given exceptionally good results

about filtration of some of the materials which were continually resisting filtration by our usual methods

Compares Filter Results

We decided to equip one of our vacuum filters with the Wright cord attachment and by running the two in parallel under exactly similar conditions obtain a true record of the performance of each filter. In order to assure a fair comparison of results we completely cleansed and overhauled each one and replaced the old screens on each with new ones. A new filter cloth was also placed on one while the cord attachment was being placed upon the other.

For the past month we have been operating these two filters by dewatering the same sludge and have uniformly used identically conditioned batches of sludge in each machine.

Sludge is removed from the cloth-covered filter with a steel scraper which is held against the revolving drum. Before reaching the scraper the sludge cake is loosened from the filter cloth by a blast of compressed air introduced from the inside of the drum. Toward the end of each run the sludge gets thin and the vacuum is able to build up only a comparatively thin layer of material on the cloth. This layer is hard to remove because it is sometimes only as thick as the wires which hold the cloth on the drum. Consequently the scraper cannot get under it and it either continues around the drum or piles up on the scraper. When materials are being filtered which clog the pores of the cloth, this machine gradually ceases to function until the cloth is cleaned.

Removal of sludge from the cord filter is accomplished by separating the two layers of cord. The bottom layer is led away from the top layer by traveling over a different set of guides or pulleys. The top layer carrying the sludge cake is carried over an outside pulley and back down to the periphery of the drum. Sludge cake falls away from these cords by its own weight and the cords then pass through a comb which completes removal.

Spray Cleans the Cords

Both layers of cord pass through a spray of water which thoroughly cleans them before they again reach the drum of the filter for a new cycle of the operation. This assures a clean filtering medium all during the operation. There is no need for compressed air in this cycle.

The cord filter uses the cords which cover the periphery of the filter drum as the filtering medium. These cords cover the surface of the drum as it revolves in two layers, one set of cords lies upon the drum in advance of the second, thus forming a uniform "corduroy" surface. The alignment of these cords produces spaces or grooves between adjacent cords so that the second layer uniformly fills the areas when placed between the first layer of cords, thus producing an efficient filtering medium.

Sealing against leakage between compartments is necessary in both units, but this is accomplished differently in each machine. In the standard type of filter, the cloth is held in place by half-round strips set in a groove. This cloth is then held in place by wire windings which are necessary on account of the compressed air blast which is used to remove the sludge cake as each section reaches the scraper. For the cord filter, resilient and moldable plastics are held in dove-tailed slots affixed to the drum at the division strip of each compartment.

The grooves under the filtering cords form canals for circumferential drainage of the filtrate. This makes the open screen superfluous, except for the transverse collection of filtrate to the compartment filtrate pipe outlet. The cord medium does not require machine-turned drums since the compartment seals, slightly raised above the drum, make the outline of the contour of the cords a broken line. There is room under the discharging cords for acid application or other means of cleaning the exposed drum.

Cords Like Rope Drive

The travel of the cords is similar to the conventional rope drive for power transmission and experimentation has worked out the positive alignment of the cords, as is proved by continuous successful operation. The filter interstices are the openings between abutting cords and filtrate travel through the cord itself is very slight even with new cords.

At the present moment we find that the sludge which we are dewatering is of a type that can be successfully filtered by the cord filter but cannot be readily handled by the conventional cloth-covered filter. After a short run of this material on the cloth filter the production of this machine becomes negligible. The cord filter with the same sludge produces a uniform and

(Continued on page 119)

Beautiful Highways for Urban and Rural Areas

By NELSON M. WELLS
Principal Landscape Engineer
New York State Department of Public Works

Plans for post-war highways in New York State, which will be part of an $840,000,000 five-year program of public works construction, involve two objectives in the location and design of roads: first, to meet the requirements of modern traffic, and secondly, to make roads integral parts of the landscapes through which they pass.

In the design of new all-purpose highways many of the principles used in parkway construction will be applied. Highways will be adapted to topography in location, alignment and profile to preserve natural ground forms and other natural features of vegetation, streams, and shore lines. A closer relationship to the topography will result in less obtrusive highways which will at the same time serve better as a means of comprehending and enjoying the existing urban and country surroundigs.

NEW highways in the State of New York, as now being planned and constructed, will be far different from the type of roads to which the traveling public is accustomed. Not so long ago it was the function of highway construction to merely get traffic out of the mud. With the growth of cities, intensive land development, and the advent of the automobile, there have been successive stages beyond the old corduroy era with rapid progression in the last twenty years.

National Interest in "Outdoors"

Coincident with these changes has been another type of growth. Parks have been developed in cities and in recreation centers of the state. Vast tracts of land have been acquired and preserved because of their historic or scenic assets. A nation-wide and growing interest in the great outdoors has developed and today a large percentage of the vehicles on the highways of the state and nation are used for recreation. Parkways have been built for passenger cars connecting parks and cities and radiating from urban areas to outlying points. These parkways have been jointly planned by engineers and landscape architects. They give a preview of some of the types of roadside improvement for the new highways.

The beauty of New York State lies in its varied topography, its shores and mountains, its wooded hills and agricultural lands, its hamlets and its cities. The adaptation of highways to this scenery with full recognition of efficiency and beauty is the objective of the recently organized Landscape Bureau of the New York State Department of Public Works.

Latent Beauty Will Be Revealed

This means revealing and enhancing latent beauty. It means careful integration of highways with comprehensive plans for the areas which they serve to insure their proper influence on the use of adjacent lands and on the character of industry and other developments, while preserving the intervening scenic aspects.

New York State's present high standards for design and construction result in highly efficient highways; the new Landscape Bureau seeks to develop and apply similar standards to achieve maximum beauty for the areas through which they pass.

No Longer Will There Be:

No longer will there be the narrow, dangerous shoulders on newly constructed highways; no longer steep ditches and barren, eroding slopes to stand as evidence of unsightly construction. In their place will be broad shoulders capable of supporting occasional traffic, wide gentle ditches, and slopes which are molded and blended with their natural surroundings. These are roadside improvements of great merit. Gentle slopes and natural land forms favor soil erosion control, a better vegetative cover, longer sight distances for greater highway safety, greater beauty, and lower maintenance costs of erosion, mowing, and snow removal.

In the early days of roadside improvement, enthusiasm was directed toward carrying evenly spaced rows of trees from city streets out across the open countryside, and planting flowers in an attempt at "roadside beautification." Fortunately it is now realized that roadsides are but the foreground for the inherent beauty of the natural landscapes. A growth of grasses is a pleasing and satisfactory cover in most situations. Elsewhere native herbs, vines, shrubs, and trees will effectually heal over scars, enhance the landscape, frame vistas, screen objectionable off-scapes, augment the safety provisions, add variety for the wearisome driver, and provide welcome shade at wayside stopping places such as scenic and safety turnouts and rest areas.

Lower Maintenance Costs

Roadside design based on these principles requires the collaboration of the landscape and the engineers on location, construction, soils, safety, right of way, and maintenance, in adapting construction to the terrain and securing vantage points of interest—be it hamlet, industry, farmlands, or the shores of lakes and streams. With gentle slopes which are less subject to erosion and more easily cared for, and with a careful selection of grasses and woody plants which are indigenous to each locality, it is reasonable to anticipate a material saving in maintenance costs. These principles will be applied not only to new construction but to a considerable extent on existing highways also.

Initial costs may be somewhat more than heretofore but the lower maintenance costs have justified the expense where these principles have been applied. Additional land is needed for grading operations to produce the flatter slopes, to control vistas, to preserve fine trees or other natural features, and other parcels may be required for special landscape developments. This means wider rights of way, but rights of way are actually the most permanent part of the highway.

Don't Waste the Landscape

Only by the application of these basic design principles will the highways and the efforts that will be expended upon them for utility, safety, and minimized maintenance contribute fully to the enjoyment of the landscape by the traveling public.

Indexing Council Minutes

Five Years with an Orderly System

By WALTER C. PETERSON
City Clerk
Los Angeles

THE city clerk is a liaison office between the mayor, the council, the city departments, and the public. In Los Angeles more than 100,000 persons are notified each year of assessments for pending improvements and licenses payable; 4,500 petitions and communications requiring council action are received and routed and 20,000 letters are written to interested persons. Each day an agenda for the council is prepared, together with a summary of the previous day's actions both of which are distributed to officials and city departments.

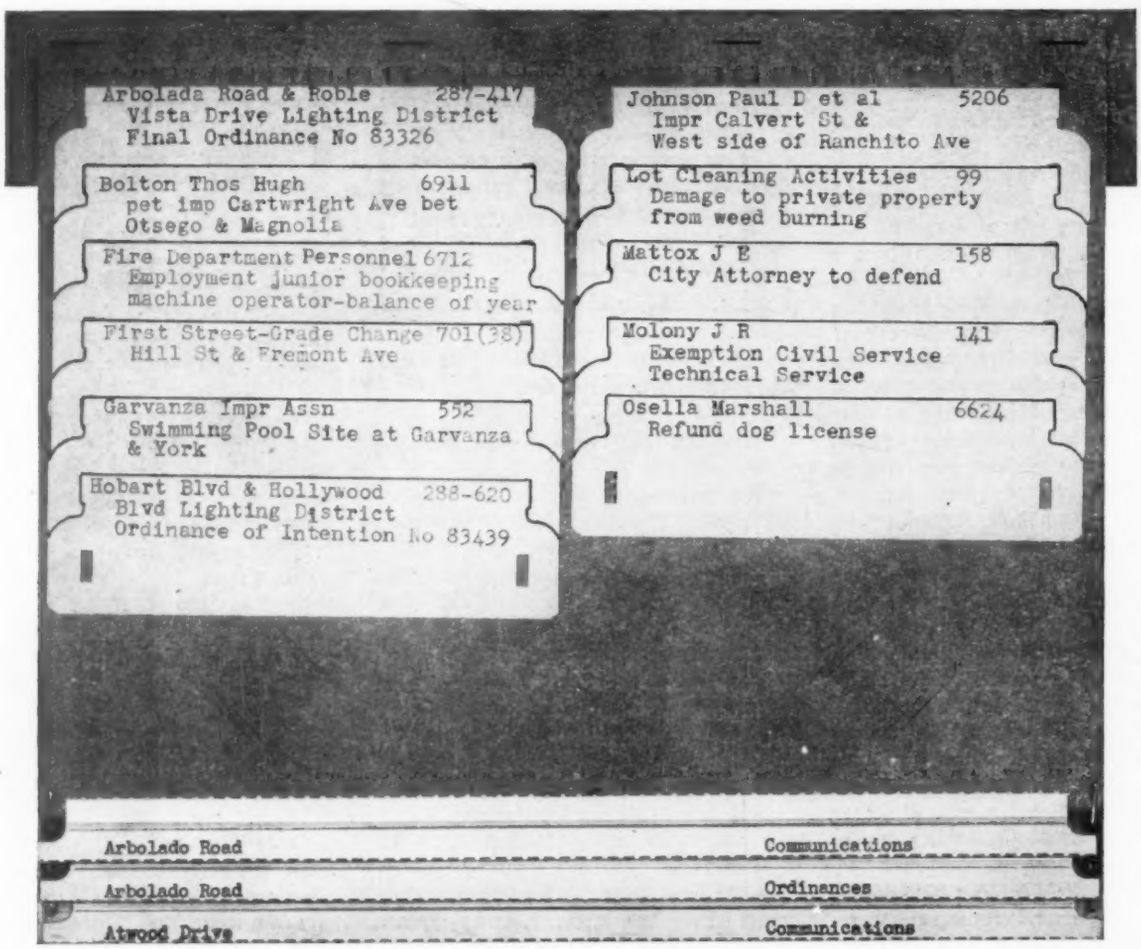
Council minutes and proceedings, which are one of the city clerk's responsibilities, are more important than most Angelenos appreciate. Some five years ago, in cooperation with a Remington Rand systems technician, a comprehensive analysis of the problem of indexing council minutes and the supporting documents affecting them was made, to help save time for city executives and employees and people having legitimate business with them.

Before the introduction of modern control, indexes were kept in bound books, hand posted in many handwritings, and inexactitudes, in entries and deciphering, were inevitable.

All this has been transformed. Indexing is now sure and certain. Four clerks are able to locate documents and collateral material quickly and correctly. Documents sent out of the vault to city departments are not mislaid or forgotten. The equipment consists of twelve Kardex cabinets, six Chaindex cabinets, and fifteen Aristocrat files made by Remington Rand Inc., New York.

When any council communication is received by the Indexing Division, the first step is careful perusal and study of the contents. Casual or superficial reading is not enough, for anywhere in the body of the communication there may be a reference which ties it to an inactive or pending matter. All the possibilities must be run down through the indexes. References originating in 1940, or more recently, are easy to find because the Chaindex cross-reference index is organized for that function. It is still necessary to search the book records for references in 1939 or earlier years.

Where relationship can be established, the communication is attached to the file and submitted to the city council or to the city official concerned. When the communication refers to a new matter, it is given the next open serial number and a new file is set up to follow it. This is done by attaching the communication to a "backer" which shows the file number, source, subject, and date. These "backers" are made in right and left hand patterns, with the right hand style for



A Chaindex cross-reference file giving the major title, in this case Arbolada Road, with minor references and reference numbers for further cross-filing identification

even and the left for odd numbers printed so that they cannot be reversed. This insures maximum use of available filing inches and prevents "build up" on one side of the file drawers. Although the files will work easily even with unbalanced loads, only a balanced arrangement can prevent waste of filing inches.

Visibly Indexed

Before transmittal of the file, a Kardex card is prepared to show file number, source, and general subject on the visible margin. This card is inserted in numerical sequence in the proper slide of a cabinet. It is now available for reference and for the posting of necessary minute book entries. A work card is prepared simultaneously. It bears only the file number and is inserted in the upper (or facing) pocket of the slide, so that the complete story of the file is available from a single inspection of the visible margin and without any need to turn a pocket to study the work card which contains the history of movements of the file. It acts both as a location record and a charge card for the file, so that complete control is exercised and documents cannot be lost and accountability and responsibility can be fixed. When a file in use is required by a second user, it can speedily be retrieved and dispatched by messenger, since its whereabouts is definitely known.

Cross-Indexed

To expedite cross-reference and to prevent the waste of countless hours on avoidable searches, Chaindex was adopted to provide *complete* cross references. No card carries more than a single reference. As many are used as are necessary to provide *exhaustive* guides to the original documents in the Council Minute Book and underlying files. These cards bear the file number to which they pertain as well as a description of some aspect of the subject of the file. It is evident that some general subjects involve council action recorded in more than one file. Reference to the illustration of the pocket dealing with Arbolada Road Communications will show the filing method.

The major title on the visible margin of the pocket is Arbolada Road. The minor title is Communications, since other minor titles, e.g., Ordinances, can also be required. Note that each card bears two or three lines of typed description. The first line is the major title of the Communications regarding Arbolada Road. Upon it the file number is typed. You will see that there are a number of files referring to communications about this road. The second and third lines are explanatory of the major title, or, in some instances, are references to related actions under the major title which are in the same file.

The filing of the cards is alphabetical within the pocket, and interfiling of new cross-reference is simple and rapid. If there are few cross-references, subtitles or major titles can be grouped in a single pocket. When this is done the visible margin title insert is alphabetized—for example, Zyw-Zyz—to save equipment and effort.

This application of Chaindex to the solution of cross-reference problems in connection with council minutes has conclusively demonstrated its flexibility and economy. The success of the method constitutes a valid reason for its careful consideration by other city clerks and officials who must maintain voluminous and complex records for legislative, administrative, and other bodies.

Fire Service Water Supply

THE fire department is vitally interested in the amount of water available at any place in the inhabited sections of the community it serves. The members of the department, from the chief down to the newest member of the company, want to know where hydrants are located and whether they can get a full supply for the pumper when they connect up to a hydrant.

To find out, fire department officials must obtain from the water department an up-to-date blueprint or map of the distribution system, showing the size of the mains, the location of hydrants, and the connections to sprinkler systems. Wherever two or more areas are served by different pressures, such as a low service and a high service, the location of the division gages should be shown on the map. An added supply can often be obtained in the lower service by opening these division gates; the actual work of opening them, however, should be left to the water department employees, one or more of whom should respond to all serious fire alarms. Firemen should have all data pertaining to water pressure which may be expected in different areas.

Flow Tests Necessary

In some cities and towns a flow test has been run at each hydrant by the water department, and the hydrants have been given a distinctive marking indicating whether the hydrant can deliver more than 500 gallons or more than 1,000 gallons when flowing full open. But even if all the hydrants can individually deliver over 1,000 gallons, this does not necessarily indicate their full capacity in the event of a fire requiring the use of several hydrants simultaneously. For any large or important building, it is therefore necessary to run a flow test using several hydrants at once.

It is of considerable value to both water and the fire departments to have at each fire station a record of the pressure carried at various times of the day; this can be obtained by a recording pressure gage. A continued lowering of the pressure from year to year or a heavy drop in pressure between night and day, or during times when people are watering gardens and lawns, indicates that the capacity of the main which supplies the area is inadequate.

With 4-inch pipe only one pumper can ordinarily be used, and, though longer hose lines might be necessary, additional pumpers should go to hydrants on larger mains. For many years the National Board of Fire Underwriters has recommended that 8-inch pipe be used in all areas of a city, except near the high-value districts where 12-inch pipe should be used. The increase in cost is not excessive; the carrying capacity of an 8-inch main is six times that of a 4-inch and twice that of a 6-inch.

The value of elevated storage, such as a reservoir or a steel tank, is of particular interest to fire departments. In many places the erection of such elevated storage is the only feasible method of getting an adequate supply of water. To lay the necessary large main to a hilly residential section or to a new industrial plant on the outskirts of a town or city might be prohibitive, especially in rocky soil. Where it is essential that a fire flow of 1,000 gallons a minute be assured, 60,000 gallons for each hour this flow may be needed must be stored. In estimating the capacity needed, the draw-down due to domestic consumption must be allowed for. Therefore, it seems best to figure 100,000 gallons for each 1,000 gallons fire flow for each hour of duration. On this basis, an industrial plant needing 3,000 gallons a minute for 5 hours might well install a 1,500,000-gallon tank.

Lynchburg, Va., clear her streets of a wet soggy four-inch snowfall

Snow Removal Practice in the Sunny South

By J. ELMORE McCARRON
Director
Department of Public Works
Lynchburg, Va.

YOU cannot plan snow removal work to take care of the "average" condition, as any competent street superintendent will testify. The accompanying photograph shows a snowfall about four inches deep that had to be cleared from the streets of Lynchburg, Va., last winter. Fortunately we were ready and could clear the snow with our truck-mounted Baker snow plows.

The man who said Lynchburg was built on seven hills surely could not count over that number because when there is a snow there are seven times seven hills. But, whether there is a trace of snow or drifts twelve or fourteen inches deep, the transit buses and other traffic are always able to move on schedule because we are able to keep the streets cleared.

Must Be Ready to Plow at Night

Since most of the snows occur late at night, a good organization and the best of equipment must be used, equipment that can be depended upon to produce when production is needed. The Department of Public Service has four Baker truck-mounted plows which will push the average snow fall to the curb so that it can be later hauled to various dumping places. Of course, all snows are not removed that easily and when there is a freeze which leaves a sheet of ice next to the pavement, sand and salt are used to solve the problem.

The street department's truck bodies are constructed in such a way that the tail gates can be latched down so that a layer of dried sand or salt can be laid on the icy, snow-packed pavement. Sand and salt are used because, when spread on a tight-packed layer of snow, the mixture causes it to become a mealy mass that will be whipped by the passing traffic to the curb and will then be easy to sweep up with a mechanical sweeper. It has also been found that a sand and salt mixture gives a better stopping surface than cinders do and does not have the tendency to roll under the vehicles wheels nor to disintegrate and dirty the pavement as the cinders do.

Snow removal has ceased to be a problem in Lynchburg. This is due to the fact that we now have an efficient organization and adequate equipment with which to do the work. For years the buses which operate over the streets of Lynchburg never missed a trip on their scheduled runs because we have been able to keep our streets cleared for traffic.

EDITOR'S NOTE: Municipalities in Virginia have been a rather active market for snowplows during the past few years. Norfolk, Stanton, Petersburg, Lynchburg, and Richmond have all equipped themselves with this type of snow fighting equipment. Richmond alone purchased forty plows.

Hickory Votes Nine-Point Program

WITHOUT a dissenting vote Hickory, N. C., approved a nine-point improvement program that covers municipal operations from the treatment and distribution of water to the construction of a railroad siding and storage bins. Separate votes were required for each individual proposition.

Proposition No. 1 authorizes the issuing of $500,000 in bonds for the enlargement and improvement of the water supply system. Improvement will include enlarging the water treatment plant, constructing additional mains, and erecting an elevated storage tank. City Manager R. E. Smyre states that the city expects to start advertising immediately for bids on this improvement.

Proposition No. 2 authorizes a $250,000 bond issue to finance the enlargement and improvement of the sewer system and the construction of a new sewage treatment plant. This also will be ready for bids shortly.

Proposition No. 3 authorizes the purchase of $30,000 worth of trucks and other apparatus to be used by the city water department. City Manager Smyre states that the first purchase will be for a power shovel with a backhoe attachment in order to facilitate digging water and sewer ditches.

Proposal No. 4 authorizes the purchase of apparatus and equipment for the disposal of garbage for a maximum amount of $20,000. One modern 3½-ton truck with a 13-yard Elgin Refuse Getter collector body already has been purchased and a second is expected within the near future.

Propositions No. 5, 6, 7 cover street improvements, the erection of a new fire station and purchase of fire equipment, and the improvement of the city's airport. These, according to City Manager Smyre, will not be handled immediately.

Proposition No. 8 provides for a municipal comfort station which will be constructed as soon as plans are ready, and Proposition No. 9 covers railroad sidings and bins which will probably be built by forces employed by the city.

How Better Zoning Could Improve Our Business Areas

Some esthetic and practical advantages of decreasing building coverage per plot of land

By CHARLES C. PLATT
Architect and City Planner
President, Municipal Art Society
New York

IT HAS long been the custom throughout our cities for buildings to be erected "cheek by jowl," so to speak, with adjoining buildings. Design and forms conflict and the net result is a completely inharmonious combination, though the artistic merits of each building itself may be above reproach.

Were it possible to build only by block frontages, there would be no clash of artistic style and effort; but generally it is inevitable that several plottages must be developed on the same block front. If, however, each building were to stand by itself, the variety of designs standing independently of one another would produce in most instances an interesting exhibition—and in any event the direct and irritating clash of styles and forms would be avoided.

Therefore if open spacing were observed by having side courts of suitable width at the street frontage of each building extending back far enough to give each building its individual setting, the exterior finish and design could be continued around both sides for the full depth of the court and thus each building and its design would stand by itself and on its own esthetic merits.

Herewith is an example of an existing block front, both before and after a potential separation of buildings.

It is taken from a fairly common example and quite typical of the streets of our cities. Were each of these buildings by itself of the highest rank architecturally the potpourri would still be bad, as every building inevitably detracts from its neighbor.

As a matter of fact, all buildings in any city are or should be considered on exhibition, so to speak, as part of our outdoor museum of architectural art; and never, in the field of indoor or outdoor art, are exhibits placed close together, much less touching one another. On the contrary, we separate them enough to give each its own setting and freedom from the setting and artistic impact of its neighbor.

In addition to esthetic advantages, the extra show window space at the ground floor and extra light and air at the upper stories offer a practical benefit to compensate in no small measure for the loss of permissible building area that improved zoning laws prescribe, and provide at last a place for sidewalk lifts and engineer's exits that do not obstruct the thoroughfare.

Therefore, in order to enhance the appearance of our streets and to effect some compensatory advantages, both practical and esthetic, from more drastic zoning restrictions, owners should agree among themselves or local ordinances should be enacted providing that wherever buildings of different forms or designs are erected on the same block they must stand sufficiently free and clear of each other to avoid the ugly clash of inharmonious façades so detrimental to the city's appearance as a whole and to the buildings themselves.

Let us set in motion steps toward the due consideration of some such beneficial accomplishment.

ABOVE: *Typical city shopping block.* BELOW: *Separations between buildings bring out individual architectural design, add extra window space, more light and air*

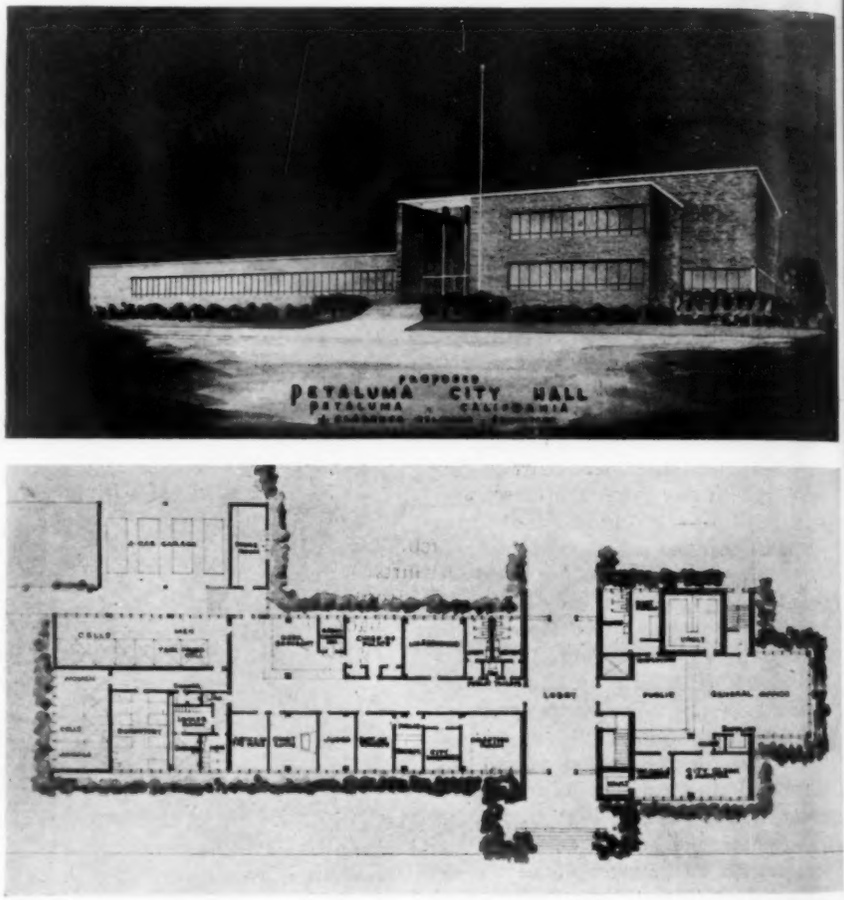
Nucleus for a Civic Center at Petaluma, Calif.

AT RIGHT: *Petaluma's City Hall has served the city since 1886. Mayor Jasper S. Woodson hopes that by the end of the year construction on the new City Hall will be under way*

LAST June, the voters of Petaluma, Calif., approved two propositions calling for a combined bond issue of $420,000 for the purpose of constructing a city hall and a combined auditorium-recreation building, including the acquisition of land.

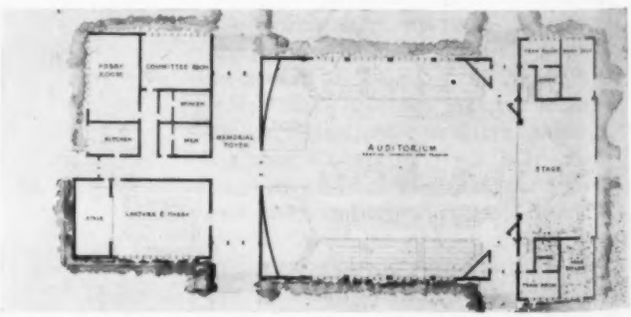
Petaluma's present city hall was built in 1886 and is inadequate for the numerous offices and departments which have been added to the municipal administration in the meantime. It was therefore felt that the time had come to replace the old building with one better equipped to meet the demands of modern city government. The auditorium, on the other hand, is to be the first of its kind in Petaluma, where a public place suitable for conventions, lectures, social gatherings, and recreation had been lacking heretofore. The plans envisage locating these buildings on a site spacious enough so that they may form the nucleus for a civic center. As yet, no definite site has been selected, however.

Mr. J. Clarence Felciano, California architect, was chosen to prepare preliminary sketches and, in doing so, he has succeeded in incorporating into his plans many modern technical achievements. The proposed city hall is a two-story fireproof building with reinforced concrete floors, walls, and roof. The wall surfaces of vari-colored brick blend with wide expanses of glass which the design calls for. The council chamber, mayor's office, and caucus room are located on the second floor, while administrative offices which have more frequent contact with the public, are on the ground floor. Police and judicial departments are in a special section of the building, separated from the rest.



ABOVE: *Proposed city hall and plan of first floor. The entrance hall is the dominant feature of the design; wide expanses of glass at front and rear permit a vista through the building to garden and landscaped area beyond. The first floor will accommodate all administrative offices. City clerk, auditor, tax collector and assessor, city engineer and superintendent of streets will have their offices off the main lobby*

The auditorium and recreation building is designed as a companion building to the city hall. It is divided into two parts, the auditorium proper and the recreation wing. The auditorium has a seating capacity of 1,450 persons, and the main floor can be utilized for dances, basketball, etc. The stage, 36 ft. by 64 ft., complete with workshop and dressing facilities, is large enough for full-scale productions. The recreation wing contains a lecture hall, and facilities for crafts, hobbies, and committee meetings. A kitchen is also on the premises.



The auditorium is designed as a companion building to the city hall. It will be the first of its kind in Petaluma

Weapons for the Cities' War on Prostitution

Techniques for social protection and venereal disease control developed successfully during the war

By THOMAS DEVINE, Director
Social Protection Division
Office of Community War Services
Federal Security Agency

MUNICIPAL officials are in strategic positions to attack the allied problems of prostitution and venereal disease. They are familiar with community facilities and lacks and can spearhead a community-wide, carefully planned and cordinated attack.

Federal social protection activity consists of services to states and their political subdivisions in support of community action essential to prevent prostitution and readjust its victims.

Communities which keep abreast of the most recent developments and techniques in the field of social protection can get help from state health and welfare departments, from federal agencies like the U. S. Public Health Service or the Social Protection Division of the Federal Security Agency, or from national voluntary groups like the American Social Hygiene Association and its affiliates.

The first thing that any community can do is to take stock of itself, honestly and fearlessly asking such questions as:

How does our town measure up in its social protection program?

Do agencies need more personnel, more money, more support from public or private sources?

A set of objectives should then be formulated and adhered to.

In "Challenge to Community Action," a pamphlet recently issued, the Social Protection Division of the Federal Security Agency suggests some of the community weapons which were developed during the war and summarizes present information about prostitution, promiscuity, and venereal disease. The procedures suggested have been tried by communities and proved workable.

Caution: Justice and Civil Liberties

"Challenge to Community Action" points out that repression of prostitution should not degenerate into an attack on female inmates of houses of ill fame, while the promoters and profiteers of the racket go free to recruit new members to the profession and exploit young girls and women for illegal purposes. Neither should prostitutes be given routine fines as an easy way of collecting revenue. To toss girls over the city line, as some city authorities still do, is to make a problem for some neighboring town, which will be only too glad to reciprocate. To fine and release them, or jail them for short terms, is to ask for more police work in a few years, or months—or days. Progressive police departments now inform local health departments of all cases arrested for morals offenses. Venereal disease must be found and treated for the sake of the community as well as the individual; but treatment is up to the local health department, not the court. Social services must be made available for those who can profit by such help. Otherwise individuals go around the vicious circle of infection, arrest, treatment, reinfection, arrest, *ad infinitum*.

Overzealousness in achieving objectives of social protection must be avoided in order not to infringe upon civil liberties. Progressive law enforcement and health officials are among the first to decry unwarranted or unreasonable detention as a means of providing for physical examinations, or misuse of vagrancy and loitering charges.

Experience in many communities proves that there are no insurmountable obstacles to the closing of a known house of prostitution. Padlock proceedings, frequent raids, the posting of policemen at the entrances to question patrons, asking the health commisioner to quarantine the establishment are all common methods known to local law enforcement officers. *"Third party interests,"* such as property owners, madams, business interests, which try to corrupt or hamper the police, may cause more trouble. Sometimes simply a threat to expose the name of the true owner of the house has been found to have a magical effect; a newspaper may be encouraged to investigate the shyster lawyers and professional bondsmen who appear for almost all professional prostitutes, the doctors (so-called) who give prostitutes "health certificates," the launderers, furniture dealers, and others who exploit the girls and thus have an interest in keeping the houses open.

Inmates of *call flats* can be charged with many offenses, including disorderly conduct, soliciting or occupying rooms for immoral purposes. *Call girls,* engaged by phone, generally work through "third party interests," especially bellboys and taxi drivers, who should be made the subjects of repressive action. They in turn may reveal *call bureaus* which can be raided on search or arrest warrants. *Clandestine prostitutes* and promiscuous persons need constant vigilance from patrol cars or by foot patrolmen who check parking lots, public parks, night spots, empty playgrounds, and amusement centers.

The mere knowledge that a grand jury is about to convene can often cause vice rings to suspend. Grand juries often stimulate community action, point out conditions, get much-needed publicity for better community protection. Foremen of successive grand juries can form committees to give each new jury the benefit of past experience, producing a blueprint for community improvement in the handling of vice cases, and in probation and detention facilities. Aggressive state and district attorneys can be of great service in assembling evidence and prosecuting owners and operators

Recently published and available from the Social Protection Division, Federal Security Agency, Washington 25, D. C., are "Danger Ahead," a concise blueprint and appeal for community action in combatting prostitution and venereal disease; "Techniques of Law Enforcement in the Use of Policewomen," a manual for the use of policewomen and police officials; "Recommendations on Standards for Detention of Juveniles and Adults," a manual for communities which wish to provide proper detention facilities; "Challenge to Community Action," a pamphlet on community-tested procedures for community action; and "Does Prostitution Breed Crime?", a folder telling why enforcement officials believe in the repression of prostitution.

of houses, fly-by-night hot spots, and similar places.

The sheriff's authority is county-wide, but municipal policing is usually left to the local police department. When there is a breakdown in municipal enforcement, however, sheriffs have frequently worked with the prosecuting attorney in breaking up vice resorts. The National Sheriffs' Association, moreover, has recommended to all sheriffs systematic patrolling and observation, especially around tourist camps, roadstands and roadhouses, and other rural adjuncts to the night life of big cities.

Discouraging Unorganized Prostitution and Pick-Ups

The facts indicate that streetwalkers and pick-ups do not increase when the houses are closed, but, naturally, they become the next major enforcement problem. The amusement places, the hotels and tourist camps, the restaurants and the taxicabs in a community are all potential trouble spots from the standpoint of social control. Leaders in the beer and liquor industries are willing to join forces in a program against prostitution, even to the extent of occasionally withholding supplies from places making trouble. Police can help in emergency clean-up jobs by assigning plain-clothes men or policewomen to assemble evidence and spot wrong-doers, or by allowing business establishments to hire trained operatives after hours. They can also help by sending official letters which can be conspicuously posted for the guidance of employees.

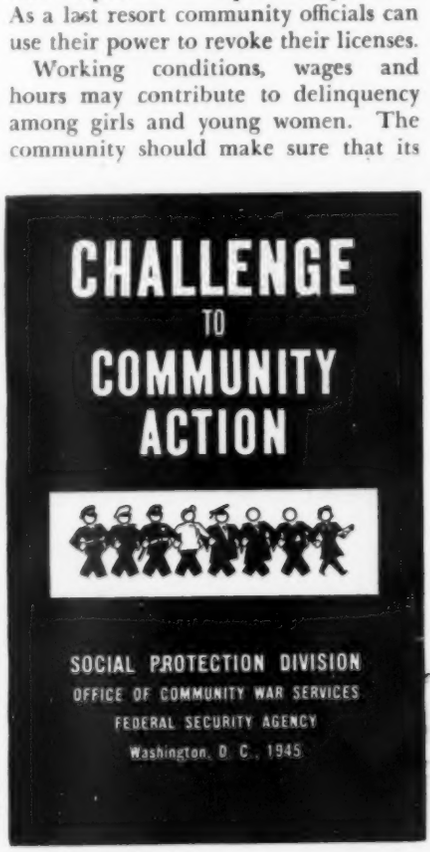
Because the first police handling of a girl delinquent may be the determining influence in her future life, law enforcement officers must be extremely careful in their approach. Trained or qualified policewomen are particularly effective for the handling of girl delinquents. The whole emphasis in a policewoman's work is on prevention; her first duty is to spot young persons in hazardous situations. Through friendly contacts with bus station personnel, managers of hotels and rooming houses, truck drivers, railroad station employees, newsstand operators, and bowling alley owners policewomen can enlist the help of those who are most likely to see and talk to girls who are strangers, lonely, runaway, on their own and generally in danger.

Self-policing by Business Interests

The first step in reducing the number of pick-ups in bars, taverns, dance halls, amusement places—and in cutting down the number of exposures in hotels, tourist camps, and rooming houses is to call together representatives of the owners and operators concerned. This can be done by the chief of police, or in some cases the sheriff, prosecuting attorney, or mayor. The relationship of prostitution and promiscuity to venereal disease, crime, and juvenile delinquency can be stressed, as well as the "good business" aspect of keeping the reputations of their premises clear and raising the standards of service. The business interests can be urged to put into effect "self-policing" policies to prevent prostitution activities in and around their place of business. Frequently such meetings lead to the drawing up of codes and protective regulations by the industries and trade groups themselves. Waiter, bartender, and caterer unions are also willing to cooperate by enforcing protective regulations. Recalcitrant hotels, taverns, rooming houses may require the use of injunction and abatement proceedings, investigations by sanitary inspectors who can revoke their licenses. Where feasible, Army and Navy officials can simply put them off limits to military personnel. Taxicab drivers who direct and take fares to known houses of prostitution, lend their cabs for immoral purposes, or even act as panders for prostitutes can also be gathered together at a meeting. If they continue in their practices, cities can require cab companies to hire inspectors to supervise operators. As a last resort community officials can use their power to revoke their licenses.

Working conditions, wages and hours may contribute to delinquency among girls and young women. The community should make sure that its restaurants and amusement places are living up to state and local regulations, especially those pertaining to the hiring of minors, and the conditions under which they work. Late hours, bad moral conditions, sub-standard wages, all play an obvious part in driving the weak, ignorant, or backward into vice.

All communities should, if possible, establish separate women's courts. Social studies of the women arrested should be available to the judge to help him determine the most hopeful form of treatment; a probation staff, good detention facilities, cooperative welfare agencies including, if possible, psychiatric service, should also be available. All men and women involved in morals charges should be examined for VD, but the results should not be made known to the judge until after adjudication. As stated before, VD is not a crime but a condition. The results of the examination should be used only in determining what disposition will be made of guilty offenders.



Handbook on techniques of social protection available on request

How to Get Started

Because social protection is largely a public program, over-all boards to provide a coordinated community attack on prostitution and venereal disease should be established as official bodies. If there is a community council, the board may be a part of it. Where there is no such over-all agency, the mayor or the executive head of the local government should be responsible for organizing this board. These boards do not operate or provide direct services. They are planning boards with official backing and recognition, set up to stimulate and fit together adequate programs in the fields of health, social treatment, education, and law enforcement. They also develop and take part in all aspects of the program pertaining to public relations. It is desirable for the mayor or the executive head of the local government to serve as chairman of the board, or to designate someone to act in this capacity. Other members of the board should include the chairmen of all sections (on health, social treatment, education, and law enforcement), the chief of police, the judges of the city and county courts, the health commissioner, superintendent of schools, director of public welfare and such other public officials as are appropriate in the particular local situation. A few outstanding citizens representing business, labor, civic, religious, and minority interests should sit on the board.

These and many other techniques of social protection as well as examples of how communities have solved their problems in wartime are set forth in "Challenge to Community Action."

How Elkhorn and Williams Bay, Wis.,

Spike the Iron Bacteria

Modern softening plants control the difficult-to-handle well water used in this area

ELKHORN and Williams Bay, Wis., two small communities located in the resort area not far from Chicago, had a tough water supply problem to solve. It wasn't just a technical problem in water treatment; it was a civic problem, a community problem that reached into every home and plagued every housewife in these two progressive little towns. It was caused by the iron bacteria that infected the water used by these communities.

The iron content itself was not great; though the hardness in the water was marked enough to be objectionable, running as high as 300 ppm expressed in calcium carbonate, however, this alone would not have caused a demand for action. The fact that the water was a perfect medium for the iron bacteria, and that these bacteria throve mightily on it were what did it.

Let Neal Thayer, who was superintendent of the Elkhorn light and water service a few years ago, and who now holds a similar position in Jonesboro, Ark., tell you about it.

"The water ran red," said Neal; "it was sticky and gummy. Little bits of iron bacteria floc would get into the meters, jam them up and cause them to run fast.

"The stuff would line the pipes," continued Neal. "It would settle in the bottom of the standpipe until it was three or four feet thick. We would purposely clean the standpipe at two o'clock in the morning to avoid having people see it. It was a slimy, revolting mess. You had to have a strong stomach to look at it. The housewives all over town hated us every wash day."

How Softening Was Selected

The water treatment methods were examined carefully before municipal officials in either town decided on softening. Iron removal alone seemed insufficient; no one appeared willing to give assurance that this type of treatment would give sufficient protection against the bacteria. Moreover, the cost of the iron-removal equipment was nearly two-thirds as great as the cost of a softening plant, consequently the additional amount required to give the communities the added advantage of soft water looked mighty attractive. It was this evidence that swayed the two communities in their decisions to favor softening plants.

This is the Williams Bay plant. The chemicals and filters are housed in the taller portion of the building while the pumps are housed at the right. The Accelator is located just beyond this building

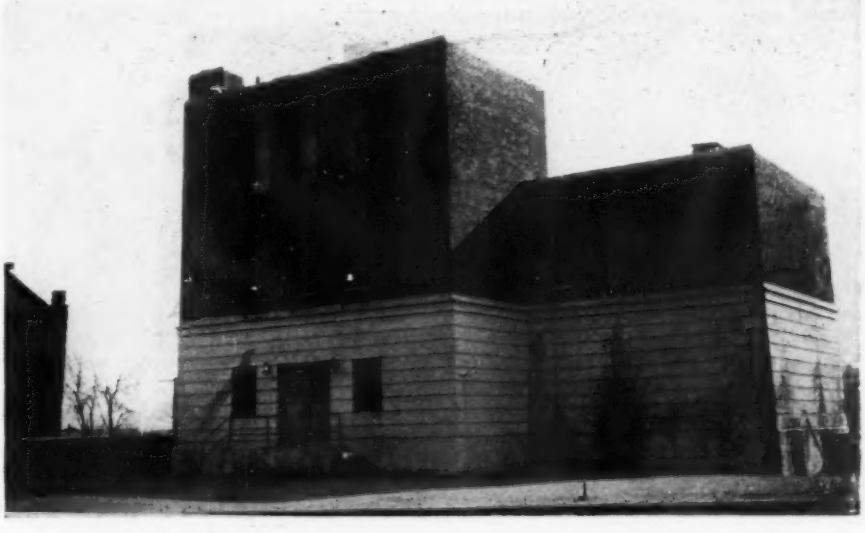
Water Sources

The sources of water for the two communities are markedly different. Elkhorn draws water from two wells approximately 1,650 feet deep, having a static level of 200 feet; these wells have a drawdown of close to 150 feet and the plant design requires that the water be lifted some 20 feet. Consequently, since the pumps must raise the water (nearly 370 feet overall), the plant design had to be such that all water was used and none wasted. The Williams Bay plant, in contrast, draws water from a well only 295 feet deep; the water level is within 25 feet of the surface and the drawdown is less than 50 feet.

The Elkhorn Plant

The Elkhorn plant, built in 1939, reduces the hardness from 300 ppm to 85. It maintains a pH in the water of approximately 8.0 in order to insure that the mains be given a light protective coating.

One of the two wells is a Peerless powered by a 125-hp Allis-Chalmers motor. It pumps 700 gpm. The other is a Byron Jackson served by a 60-hp GE motor, producing 450 gpm. These pumps lift the water into a trough-like splash aerator that removes much of the hydrogen sulphide. The water then proceeds into a Spaulding Precipitator where it receives lime and alum at the rate of approximately 3.33 pounds per thousand gallons of the lime and 0.15 pounds of the alum. When operating correctly, the Precipitator maintains a sludge blanket around four feet below the surface and the water filters through it in an



The filters and chemical feed equipment are housed in the three-story section of this Elkhorn water works building; the two-story section houses the Precipitator. An older building to the left contains the Fairbanks-Morse diesel-driven high-lift pump

upward direction. The effluent from the Precipitator is clear and requires a minimum of filtering.

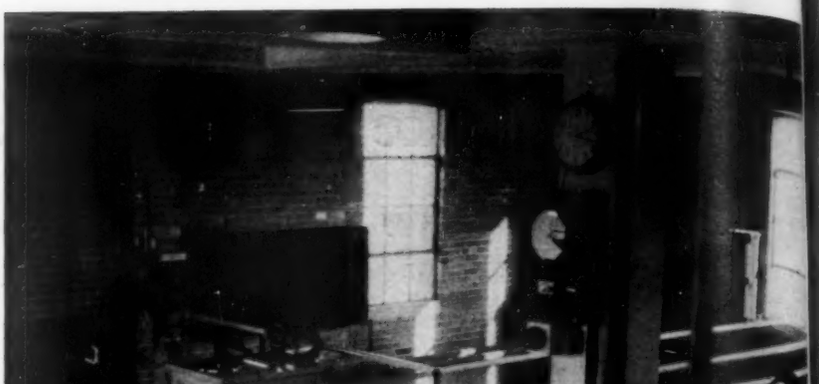
After this chemical mixing and precipitating process, the water proceeds to the recarbonation chamber where it receives carbon dioxide from the flu gas of an oil-burning hot water boiler at a rate of 12 to 15 cubic feet per minute. This flue gas contains 5 to 8 percent carbon dioxide. The water then goes to two Permutit filter beds, each rated at a half million gallons daily.

Chemical Feed Method

Of interest in the operation of the Precipitator is the chemical feeding method. Since all the water must be used in order to operate the plant economically, the rate of chemical feed must be varied in accordance with the variations in the rate of flow to the plant. Customarily in plants of this size, the operator will establish a rate of chemical feed and waste any water that may be pumped in excess of this established rate. However, in this case by keying operations with the Simplex rate controller, chemical feed is varied to prevent loss of any water.

The filtered water goes into four ground storage reservoirs to be eventually pumped into a 150,000-gallon Pittsburgh-Des Moines overhead storage tank.

It took about eighteen months of operation to remove fully the traces of the stubborn crenothrix and leptothrix bacteria that had been feeding on Elkhorn water. However, at the end of that time, all difficulties seem to have ceased. Neal Thayer and his assistants removed and cleaned each of the Trident meters that the town supplies its customers, tested them and returned them to the lines with assurance that they would continue to function correctly; he could look at the standpipe without fear of a nauseating, nocturnal task of cleaning, and the housewives could face their weekly job of washing clothes knowing that the water would leave the clothes clean and white instead of red and stained.



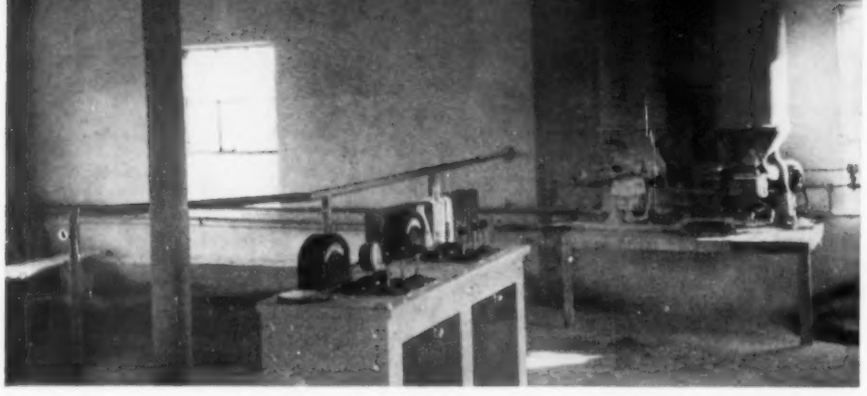
Two 15-mgd filters put the final polish on Elkhorn's water after it leaves the Precipitator

Williams Bay

The Williams Bay plant is somewhat smaller than the Elkhorn plant and differs only slightly in operation. To pump the water, Superintendent Donald Dopke uses two Byron Jackson submersible pumps, one having a capacity of 650 gpm and the other a capacity of 450. To aerate the water, the plant has an Aero-mix that feeds compressed air directly into the water. It recarbonates the water in about the same way it is done at Elkhorn by generating carbon dioxide from a small gas-fired furnace, and it mixes the lime and alum in an Accelerator upflow type of mixing basin that also uses the sludge blanket principle. Typical dosages include 3.45 pounds of lime and 0.18 pounds of alum per 1,000 gallons of water.

The plant has an extremely wide fluxion of load for Williams Bay is subject to the population changes that resort towns experience. The demand on the plant varies from 50,000 gallons per day in winter to 500,000 gallons per day in summer.

The plant was built in 1937 to combat the strenothyx iron bacteria, and as in Elkhorn, the treatment has been successful. The reduction in hardness has been from 300 ppm to about 75.



This is the filter room of the Williams Bay plant. The two chemical feeders at the right end feed lime and alum to the Accelator. In the center foreground are the Infilco control tables

Unlimited Taxing Power for Baltimore

A NEW law grants the city of Baltimore unlimited taxing power for a two-year period to tide it over a financial emergency without increasing its levy on real estate to a record figure. During 1946 and 1947, the municipality will have the same general taxing power as the state and may levy any tax it deems appropriate within its corporate limits.

A municipal income tax, a levy on tobacco products, and a partial restoration of the tax on manufacturing equipment are in the forefront of proposals for raising an additional $5,000,000 in municipal revenue, the Council of State Government reports.

Collective Bargaining in the Local Public Service

Limitations on the Right to Strike —Substitutes for Strike Pressure— Have Cities the Right to Bargain? —Improvements Under Discussion

By HERBERT HARRIS*

THE range of collective bargaining in the public service is automatically circumscribed by the fact that wages and working conditions are generally fixed by law rather than by negotiations between employer and employees. Outside of common labor, and the skilled trades, whose wages frequently accord with the "prevailing rate" in the community, incomes of public employees are set by state or federal statute, or municipal ordinance. The legislative branch of government, like the board of directors in a private corporation, is the ultimate, if absentee, boss. The administrator immediately in charge of a department or bureau must operate within the boundary of rules laid down by the law-making body. He can sometimes alter these rules in detail, if not in underlying purpose. But he usually lacks the latitude and flexibility of decision with which the manager of a private plant is endowed.

Limitations on the Right to Strike

The origins of collective bargaining in public enterprise are undoubtedly rooted in the same motivations that foster collective bargaining in private enterprise, namely, the search for higher pay, improved working conditions, and the like.

There is, however, one respect in which the process of collective bargaining in government differs drastically from that in private pursuits, namely, the use of the strike to enforce union demands. It is true, of course, that public employees have occasionally gone on strike ever since 1836 when shipwrights, caulkers, and riggers of the Philadelphia Navy Yard walked out to obtain the ten-hour day. Indeed, David Ziskind's prodigious research for his volume, "One Thousand Strikes of Government Employees," enabled him to record, up to 1940, 1,116 government strikes involving arsenal mechanics, teachers, postmen, policemen, firemen, even the state senators of the Connecticut legislature, and many more. But, with the exception of the famous Boston police strike in 1919, few government walkouts have approximated in severity, extent, length, and social impact various strikes on the railroads, in coal mines, in automobile and rubber plants, and others in private industry. Moreover, while there have been only a little over a thousand government strikes over the past 125 years, the country has sometimes witnessed that many strikes in private industry within a single month. This disparity is not to be explained solely on the ground that the total number of government workers who belong to unions is far less than workers in private industry. In the peacetime year of 1939, for example, 11.5 million private employees were unionized, but less than 0.5 million public employees were thus organized. In this year, the ratio of membership was twenty-four to one, and of strikes one thousand to one.

All government unions, some of which accepted the strike in their earlier days, now officially eschew it altogether.

This emphasis of unions in public employment upon no work stoppage mirrors community opinion against government strikes far more than it mirrors any clear-cut concepts as to what organizations of public employees may or may not do. Actually in the public service a hybrid form of collective bargaining has grown up. Instead of exerting the economic pressure of the lockout, public management draws on the real or implied powers of the state to oppose or curtail collective bargaining or to keep it within bounds once accepted. Instead of the economic pressures of the strike, the unions exert political, publicity, and psychological pressures.

A legitimate criticism of government collective bargaining is that, in its present stage of development, it has hardly begun to exploit the potentialities of mediation and arbitration, either voluntary or compulsory. Yet in anything that so directly involves the public interest, the intervention of the third party, the neutral, the umpire would seem particularly apt. On the whole, however, appropriate machinery for mediation or arbitration does not yet exist. The lack of clear-cut official procedures of conciliation, of tribunals to settle disputes between public unions and public managements remains a primary reason why collective bargaining in government often seems so confused.

Have Cities the Right to Bargain?

It remains a fiercely contested point as to whether or not a city has the right to bargain collectively with its employees and to sign contracts that stipulate wages, hours, the union shop, and the like. The Institute of Municipal Law Officers has not retreated from the stand it took in 1941 on this issue. It then asserted that a municipality may not enter into a labor contract in the absence of express enabling law endowing it with the authority to do so. "Cities are creatures of limited powers," said the Institute, "having only those specifically delegated by constitution, charter and statute, and power to sign such collective bargaining agree-

How is collective bargaining carried on between labor unions and the city, state, and federal governments? To what extent are government employees organized?

Such questions as these have aroused wide interest ever since, in the aftermath of World War I, the police strike in Boston started Governor Coolidge on the road that led eventually to the White House. My investigations in gathering material for a recent survey of collective bargaining trends for the Twentieth Century Fund show important differences between government collective bargaining and that in private industry.—H. H.

* The text of Mr. Harris' article is condensed from a chapter he wrote for "Trends in Collective Bargaining," published November 1945, by The Twentieth Century Fund, 330 West 42nd St., New York 18, N. Y. The report is based on a long-term investigation of collective bargaining practices and includes recommendation's made by the Fund's Impartial Labor Committee which has management, labor, government, and "public" members.

ments has not been expressly delegated to cities, except in a very limited way by the state of Washington."

The Institute has also stated that a city cannot be a party to a collective bargaining pact because: (1) this would be against declared public policy, (2) municipal employees can't strike and in the Institute's view the use of the strike and collective bargaining are inseparable, and (3) they are, in legal and economic terms, different from employees in private industry.

Those who oppose this view answer that cities conduct their business constantly under the doctrine of implied powers. Many courts, indeed, have found that the municipal corporation can draw on three classes of authority: (1) that granted in specific words; (2) that fairly or necessarily implied; and (3) that essential to accomplishing its avowed objects.

The courts have further held that cities may legitimately invoke implied powers to hire "outside" architects, and attorneys, to make assessments for local improvements, to purchase lands on which to erect school buildings, to construct water works and a long list of other things. It would seem that, today, harmonious labor relations are crucial to the efficient transaction of a city's business. Hence, to achieve that end, the power to utilize collective bargaining, and written agreements flowing from it, may be both "fairly" and "necessarily" implied, as "essential" for attaining the very purposes for which the city, as a public corporation, exists.

Proponents of collective bargaining for public employees argue further that, while federal and state statutes which provide for collective bargaining exclude public employees, this exclusion does not justify the Institute's inference that public employees are not entitled to the privileges of collective bargaining. As a matter of fact the Michigan, Wisconsin, and other labor relations acts tend to safeguard the rights of civil servants to bargain collectively. When a Michigan city contended that it was exempt from that part of the state act which requires mediation of labor disputes on the ground that the legislature could not regulate a municipality's labor relations, the supreme court of Michigan rejected this view. The court said:

"It is a matter of general public concern, and well within the police power of the State to attempt to prevent disputes between employees and employers not only in manufacturing concerns and factories but also in public utilities, whether privately or publicly owned and operated. The nature of the ownership will make no difference in the deleterious effect of the labor dispute on the general public. The act was intended to alleviate labor difficulties in general and not only in disputes in privately owned factories and utilities."

In the third place, say proponents of collective bargaining, while it is correct that civil servants differ from private employees in certain legal and economic respects, notably that the former's incomes are set by law, this logic in part begs the question. The economic drives and aspirations of public employees are identical with those actuating other workers. "The desire of government employees for fair and adequate pay," President Roosevelt said, "for reasonable hours of work, safe and suitable working conditions, development of opportunities for advancement, facilities for fair and impartial consideration and review of grievances, and other objectives of a proper employee-relations policy, is basically no different from that of employees in private industry. Organization on their part to present their views on such matters is both natural and logical . . ."

Examples of City Bargaining

The continuing development of collective bargaining in local and other government fields in the face of such legalistic obstacles testifies to its inherent vitality. To measure the sweep of the movement it may be useful to examine the provisions of thirty-two pacts negotiated by AF of L and CIO unions with municipalities during 1943 and 1944. They were all signed in cities of 100,000 or less, with the exception of Philadelphia. Only eight out of these thirty-two agreements expressly exclude strikes and lockouts either by explicit reference or by reaffirmation of the particular union's avowed "no strike" policy. In the remaining twenty-four contracts, this topic was not mentioned. It was inferentially "left open," except in so far as the unions—in accord with their constitutions—have renounced the strike weapon.

In general, the workers covered are mechanics, janitors, laborers, street cleaners, attendants, and the like. But six of the agreements embrace such white-collared groups as technicians, teachers, clerks, bookkeepers, and stenographers, as well as foremen and superintendents of maintenance and repair crews. It is noteworthy that eleven of the documents call for the union shop, i.e., that all persons hired in the department concerned must be or become members of the union within thirty or sixty days after being employed and must remain in good standing. Indeed, three of the union-shop agreements provide that an employee is to be discharged if he fractures union rules. Three other agreements call for a hybrid type of union shop under which employees are encouraged to join the union, but are not in any way penalized should they desire not to do so. Nine of the agreements recognize the union as sole collective bargaining agency for its members but carry no proviso that employees must belong. In some instances, the employer permits a union representative to visit the department, investigate working conditions, and adjust disputes. Still others set up periodic conferences between the heads of city departments and the union leaders to establish "fair and equitable" working schedules.

Administration and Enforcement

Moreover, six of the agreements specify the checkoff for union dues and assessments, and in a seventh case this is made compulsory. Virtually all these contracts name as grievances to be settled between union spokesmen and the responsible administrator, such matters as reduction in pay, demotions, suspension, and layoff. Discharges must be accompanied by a written and detailed explanation of reasons wherefore and hearings are held to ascertain whether or not such terminations were justified. Sometimes changes in job classification and dismissals are threshed out by the top representatives of both union and public agency and are also frequently referred to arbitration.

More than half of these agreements also parallel their counterparts in private industry by calling for arbitration. They provide for an impartial arbitration board to be composed of a union spokesman, an appointee of the city council, and a third "outsider" to be jointly selected. Frequently, the United States Department of Labor is asked to name a neutral if the partisans can't agree on a choice.

Again reflecting practices in private industry, the wage and hour clauses in these agreements range from the requirement that all pay must conform to rates set by the budget to job classification structures as detailed and elaborate as those in an automobile factory. Any variation from the normal pay envelope has to be negotiated. Time and one half is standard. So, too, are the forty or forty-eight hour work weeks, and seniority on a departmental basis. Curiously enough, some of the contracts add elements to the seniority idea that are not always found in private plants. Instead of "plain and simple" seniority, ability, experience, and number of dependents are to be considered also in determining promotions. However, in tune with customary procedures, straight seniority pre-

(*Continued on page* 127)

A Balanced Engineering Plan for Small-City Modernization

By HARRY G. MATTHEWS
Brown & Matthews, Inc.
New York, N. Y.

THE PURPOSE of a post-war plan is to determine what improvements can be made in a community that will add to the convenience of its citizens and attract new residents and shoppers, without necessitating an unattractive tax rate. In 1944 our firm was retained to study the deficiencies and needs of Union City, N. J., population 58,000, and to render a report to the mayor on the types and scope of improvements which might offer a solution. Our plan, presented to Mayor Harry J. Thourot on November 1, 1945, listed Union City's problems in the following order:

1. New housing and sub-standard residential clearances

2. Provisions for centralized business growth through traffic and parking control centering about Bergenline Avenue

3. Garbage and sewage disposal and consideration of the Jersey meadow problem

Union City has no war-built housing. Its houses are old and there are no open spaces for expansion. To provide modern housing, old houses must be razed. The report selects five possible sites, A to E, shown on the accompanying map.

The plan suggests that the city declare a given area available for special redevelopment and agree to freeze taxes on this property at the assessed valuation existing at the time of acquisition. This can be done under the New Jersey Urban Redevelopment Law of 1944, which authorizes an exemption from all state and local taxes for from 20 to 25 years for improvements made while the property remains under the redevelopment agency.

Letting the Business District Breathe

Bergenline Avenue, the principal business street, is 45 feet wide between building lines. Due to traffic congestion it has already been declared a one-way street and a normal increase in population and more automobiles is expected to aggravate conditions.

Either of two operations will bring relief and encourage better business. The street can be widened by cutting off 35 feet from the east side to provide a street width of 80 feet for six lanes of traffic, leaving ten-foot sidewalks. This operation entails condemnation proceedings, paving, changing sewer catchbasins, street lighting, water, and other utilities on the east side. The estimated cost is $7,222,000, including $4,801,000 for the condemned land and buildings.

The alternative is to create two new parallel one-way streets one hundred feet to the rear of both sides of Bergenline Avenue through back yards. Property owners on the avenue will thus have access to a rear street on which modern store fronts with show windows can be placed. This plan would also provide additional parking areas which are badly needed. On the new streets and on the avenue, modern street lighting standards and luminaires should be installed. The estimated cost is $3,096,000, of which $2,085,630 is for condemnation expense.

Parking Meters Recommended

Convenience and accessibility of parking spaces, with enforced legal time limits, is the spark plug of continued prosperous retail and commercial business. Union City, being only 1.3 square miles in area, must give particularly careful attention to this problem. The parking plan contemplates the following provisions:

(a) No parking on Bergenline Avenue

(b) one-side-of-street parking (metered) on the new streets

(c) parking yards or lots at feasible locations (metered)

(d) metered parking on one side of cross streets *or*

(e) an alternate side street parking plan could provide metered parking *both* sides of cross streets instead of (d) above

Zoning for Peace and Prosperity

Zoning is an important part of any plan involving the future growth and welfare of Union City. We recommend that the existing ordinance be amended and revised, in the light of today's conditions, by:

(a) creating specific redevelopment areas

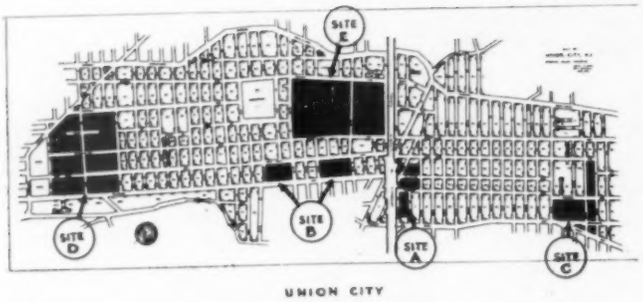
(b) creating a specific concentrated industrial district

(c) modifying provisions regarding garages

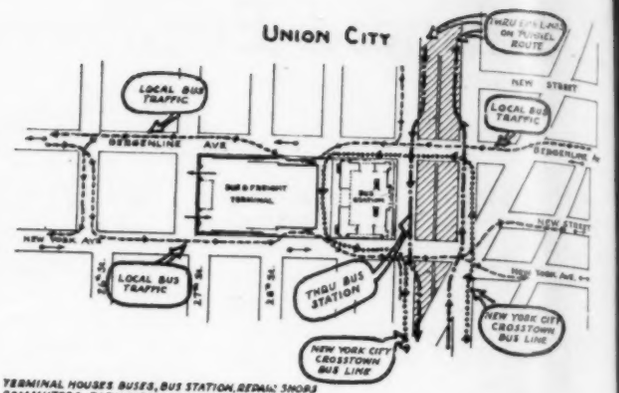
(d) modifying provisions concern-

PHOTOGRAPH COURTESY OF HUDSON DISPATCH

Union City Post-War Planning Group. Standing, left to right: Alfred E. Modarelli, counsel in post-war planning; P. Schuyler Van Bloem, of Brown and Matthews, Inc.; Mayor Harry J. Thourot; City Clerk Wilfred G. Turner; Commissioner Thomas A. Nolan; Harry G. Matthews and Commissioner Arthur J. Lapham. Seated: Commissioners Fred Berke and Henry Specker



UNION CITY


UNION CITY
LOCAL BUS TRAFFIC
GEDGENLINE AVE
NEW YORK AVE
THRU BUS STATION
NEW YORK CITY CROSSTOWN BUS LINE
TERMINAL HOUSES BUSES, BUS STATION, RETAIL SHOPS COMMUTERS PARKING ON SECOND FLOOR. EXPRESS AIR PORT ON ROOF.

RIGHT: *Site of Central Bus Terminal.* ABOVE: *The five housing sites selected by the engineers. Site A, five modern 8-story apartment houses; Site B is two parts each consisting of four separated 6-story apartment houses facing an inner court yard; Site C is similar to B; Site D is a group of multiple 6-story apartment buildings; Site E is similar to D*

ing the incorporation of limited business within the development

In order to attract the large amount of private capital necessary to raze and redevelop the housing sites, these areas must be selected with care in order to be suitable for living and protected aganist encroachments. Our recommendations and site selections by no means prohibit other redevelopment areas, as long as the balance of residential and business area does not create new density problems.

Industrial concerns are now scattered throughout the city. The new idea is to have one's place of work and place of living and recreation far enough apart for peace and freedom from noise and odors. Factories in nonconforming neighborhoods should be removed after reasonable amortization or disuse.

The zoning ordinance now prohibits garages containing more than five cars within a residential district. The ordinance should permit integral or underground parking of cars of the tenants of redevelopment areas, and should further permit,, where redevelopments are of super block type, certain limited retail businesses, perhaps theaters, libraries and educational agencies, to be incorporated within the redevelopment design.

A well coordinated plan for community development must include a satisfactory, modern, safe, and quick transportation system. If Union City is to be redeveloped as a residential community, this transportation system will have to provide: service for commuters to New York City; service to the local shopping and amusement center; service for workers in the nearby industrial districts; and parcel, express, and freight distribution.

Central Bus Terminal

The accompanying preliminary sketch of the proposed central bus terminal is just one idea out of many possible designs. Included are the following facilities: express bus station for passengers; truck receiving station for freight; bus terminal and waiting room for local traffic; bus maintenance and repair shops (basement); commuters' auto parking (second floor); airport for air express, mail, etc. (on roof).

New Municipal Headquarters

The City Hall was built sixty years ago. Maintenance and heating costs have been increasing annually and the building no longer meets the needs and requirements of the city administration. It is recommended that Union City build a new municipal building centrally located and large enough to house the police and fire department headquarters, city jail and police lockers, radio station, first aid rooms, as well as city council and court. The estimated cost is a million dollars including land acquisition.

The plan further calls for the improvement of sewage treatment, a new incinerator, repair of several streets, and makes recommendations for the police, fire, and other departments. The report closes with a detailed analysis of city operating costs without and including the capital outlay which is needed in order to put the plan into effect.

PARKING METER BALANCE SHEET FOR FIVE-YEAR PERIOD

DESCRIPTION	PLAN 1 *Single lane parking on side streets*	PLAN 2 *Double lane parking on side streets*
Cost of meters, installed @ $60 ea. 680	$40,800	
Cost of meters, installed @ $60 ea. 1,000		$60,000
Cost of maintenance and collections—5 years	20,000	30,000
Interest on investment @ 2%—5 years	2,040	6,000
Total 5-year costs and investment	$62,840	$96,000
ESTIMATED INCOME		
Collections, operating 10 hrs. daily, 300 days annually—5 years	$510,000	$750,000
Less 40% vacancies	204,000	300,000
Gross Operating Income—5 years	306,000	450,000
Less Operating Costs above	62,840	96,000
NET Operating Profit—5 years	$243,160	$354,000

America's Health Record

THE October Statistical Bulletin of the Metropolitan Life Insurance Company assures us, with the help of an impressive array of figures, that the American people are healthier now than in any previous year except 1942, the "all-time record health year." The mortality rate in 1945 among policyholders of the company, exclusive of war deaths, was only 7.5 per 1,000 which is lower than during any previous year except 1942. The war deaths of 1945 are considerably higher than previously, although the monthly rate has rapidly declined since April.

Tuberculosis, influenza, and pneumonia mortality is unusually low and this fact is particularly gratifying when we recall the terrible epidemics which swept through the country at the close of the first World War and caused more deaths than were suffered in battle. The proportion of deaths from external causes has increased, however, and in many cases these deaths have occurred in home accidents which ordinary common-sense precautions might have prevented. Fire, asphyxiation by gas, and falls account for most of the home accidents.

New Types of Fire Trucks

(Continued from page 17)

Many small scale models of fire trucks were necessary in the development of the new design in order to accommodate all of these features described on page 17, in a balanced and integrated fire engine.

To provide a maximum of visibility for the driver we have provided a seat that will acommodate the driver and two other men, and we have narrowed up the front end of the apparatus so that the driver not only has visibility straight ahead and at the sides, but also by changing the windshield design and bringing it closer to the driver, he can now see at a much higher angle than heretofore.

Fire chiefs expqressed a preference for utility rather than beautiful streamlining. The pre-war trend to ultra-streamlining was reducing operating facility out of all proportion to the gain in appearance that streamlining produced. As a result of experience, fire chiefs are placing emphasis on practical features.

The trend is definitely towards increased water tank sizes and so in the new models 150-gallon tanks have been made standard with the option of increased capacities up to 500 gallons. Increased hose and equipment capacity have been provided and the new models, in all rated capacities provide for 1,600 feet of 2½-inch double jacket hose as compared to 1,200 feet on present models.

Ease of checking the battery shows what efforts were made to meet the wishes of the fire service

More equipment compartments have been provided—one large compartment in the forward end of the body is 45 inches long, 68 inches wide by 12 inches deep. Four weatherproof compartments are also provided, one each side of the body, each large enough for a portable light plant, and two at the rear of the hose body for gas masks and other equipment.

Improved maneuverability of the apparatus has been provided by shortening the wheelbase which has permitted a marked reduction in turning radius. The turning radius on the pumpers of capacities from 500 gpm to 1,000 gpm has been reduced from 32 feet to 24 feet and on pumpers from 1,000 gpm to 1,500 gpm the turning radius has been reduced from 35 feet to 27 feet. The weights of all the pumper engines have been reduced approximately 1,500 pounds over present models. This gain is largely due to the elimination of unnecessary sheet metal.

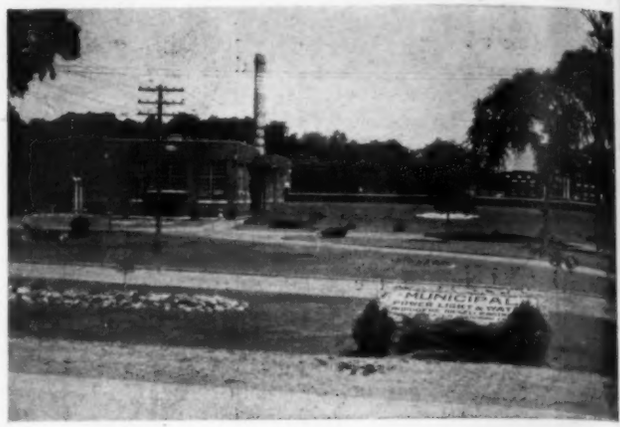
The request for front suction was so nearly universal that we have designed a front suction which is made optional with the purchaser. It eliminates all bends in the suction pipe and there are no flexible connections to leak or get out of order. This suction connection can be provided with blind cap or can be furnished with soft suction hose permanently connected.

Neodesha, Kans., Electric Plant Down an Average of Less Than Four Minutes a Year

OVER a 19-year operating cycle, the city of Neodesha, Kans., has seen its municipally owned electric service interrupted only five times for a total of 75 minutes. Prorated over the operating span, this means that the plant was down an average of 3.97 minutes per year. Perhaps more important, during this same period, the plant produced its electricity at an average cost of 7.2 mills per kwhr.

The plant uses three Nordberg diesels, two of which are 550 hp, 2-cycle units, and the third is 880 hp, also 2-cycle. The first engines went into operation in 1922 and the third was placed in service in 1934. A fourth engine, of 1,620 hp, now being installed, will give the plant a total capacity of 3,600 hp.

The plant's first interruption in service happened in 1930 when the voltage regulator dropped its load and was of five-minute's duration. The second occurred three years later when trouble occurred in the hot scavenger crosshead bearing; this interruption was for ten minutes. There were two interruptions in 1934, one for fifteen minutes when water got into the fuel oil; and the second for forty minutes in order to change the buss bar on the switch board to accommodate the new engine. This, of course, was not strictly an interruption caused by a breakdown of equipment, nevertheless veteran Superintendent Lafe Pippin conscientiously counts this against his operation record.



Neodesha, Kans., is proud of its attractive municipally owned water and electric plant. The sign on the stock states independently "This Plant Is Not for Sale"

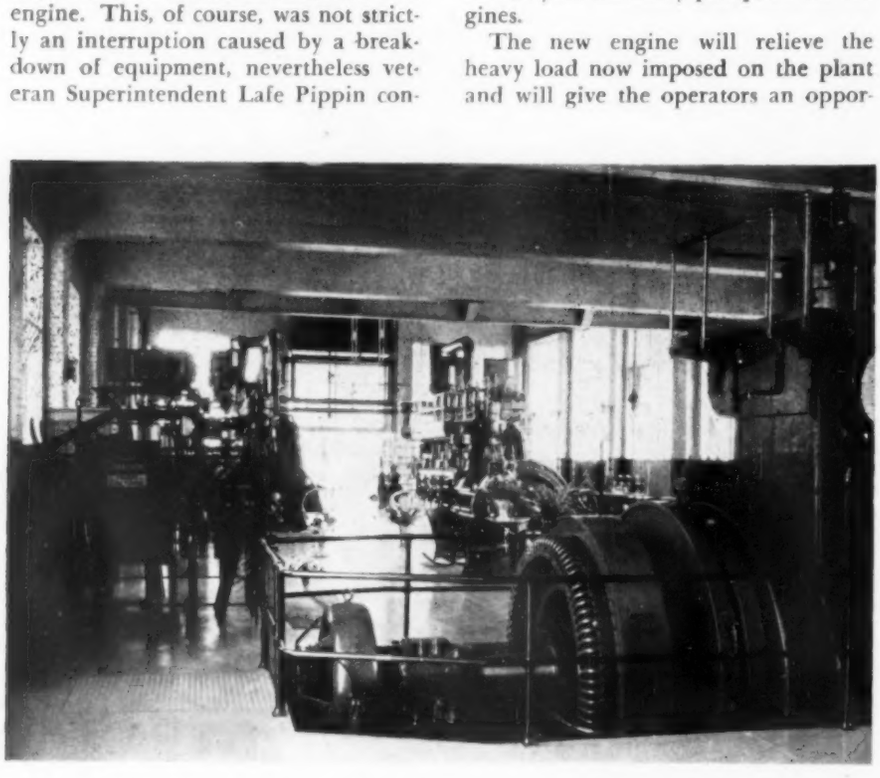
Superintendent Pippin runs all three engines all the time except for the period between 1:00 a.m. and 6:00 a.m. when he shuts down one of the small engines. His peak load is 1,050 kw and his highest load for the 24 hours is 18,500 kw. For cooling water he draws directly on the city's main supply line, pumps it through the engines and then back into the settling basins. The fuel oil is pumped directly from the refinery to the plant storage tank, and then, by an auxiliary pump, to the engines.

The new engine will relieve the heavy load now imposed on the plant and will give the operators an opportunity, periodically, to put some of the units out of use if repairs and breakdowns require it. Although careful maintenance has reduced the possibility of major breakdowns, under the present load it is impossible to shut any engine down for a length of time.

Superintendent Pippin and his men take great pride in the little "extras" that characterize their plant. The engines and floors are always kept meticulously clean, no grease is allowed to collect, and as an added touch, they keep easy chairs available for visitors that the plant may have. "We find that having nice easy chairs available makes for much favorable comment from the many visitors we have," Superintendent Pippin reports. "It seems to add to the surroundings."

To reduce operating noises the engines are equipped with Maxim silencers, each weighing about 4,800 pounds. The engines furnish power to General Electric generators; operations are controlled by a Westinghouse switchboard and a Viking alarm panel.

Lloyd E. Bowman is Commissioner of Public Utilities for Neodesha.



Three Nordberg diesel engines are the prime movers for this plant. Notice the flowers and easy chairs on the floor of the immaculately kept engine room. These are strictly for the benefit of the plant's visitors, Superintendent Pippin states

Tin Salvage Aids Reconversion Program

THE Civilian Production Administration has appealed to THE AMERICAN CITY to urge all municipal officials to continue tin can salvage programs. The Tin, Lead and Zinc Branch of CPA points out that American tin supplies still continue to decrease and that the probability of obtaining tin from the Far East will probably be delayed for some time.

As wartime controls are no longer in force, the salvage campaign must depend on efforts on the part of municipal officials and alert citizens.

Make "Unaccounted for" Water Produce a Revenue

Kenosha, Wis., shows how to beat loss in revenue due to lower post-war water demand by making all the water pumped produce revenue

YOUR municipality should be able to account, through customers' meters, for at least 92 percent of the water it delivers to the distribution system. This was pointed out recently by James W. Myers, Jr., Superintendent of the Kenosha, Wis., water works in a paper delivered before the Wisconsin Section of the American Water Works Association. Superintendent Myers stated that control of water distribution has been thorough enough in Kenosha, so that 94½ percent of all water could be accounted for through customers.

The municipality can lose water in the three following ways, which Mr. Myers pointed out: Unmetered hydrant use, underground leakage, under-registration of meters.

There should be virtually no loss through plant operation, he stated. Operations at Kenosha call for metering the low-lift and high-lift pumps as well as measuring the wasted filter wash water. The total registration of the various plant meters is then deducted from the venturi meter reading of the low-lift pumpage and this adjusted total is checked against the venturi meter reading of the high lift pumpage, or flow of water into the distribution system. In 1944 Kenosha lost through plant operation only 0.03 percent of the water pumped.

Analyzing Water-Loss Possibilities

Regarding *hydrant use*, Superintendent Myers believes that it can be held to 0.3 to 0.8 percent of the water pumped. Kenosha practice limits by ordinance the use of the hydrants to the fire and street departments. The fire department closely estimates the use that it makes of the hydrant, and the street department meters the water that it puts into its set of Elgin sweepers, and makes no other use of the hydrants.

Kenosha carefully estimates the water used to flush dead-ends by computing the hydrant flow from the formula, $Q=CAV$ with C taken at 90; A, the cross section of the hose nozzle; and V, the velocity of flow computed from the pressure gage reading taken on the other hydrant nozzle while the hydrant is flowing.

Concerning *underground leakage*, Superintendent Myers admitted that it is impossible to build a bottle-tight system but in his opinion, loss by leakage could be confined to a figure ranging between 60 and 250 gallons per day per mile per inch of pipe diameter, and not be excessive. Engineers of The Pitometer Co. give the general figure of 3,000 gallons per mile per day in old distribution systems. Applying this figure to Kenosha, he stated that it would justify a loss of 7½ percent of total pumpage, thus Kenosha's figure of only 3.75 percent is more than satisfactory. He strongly recommended taking advantage of the Pitometer survey services and making appropriate follow-up distribution tests.

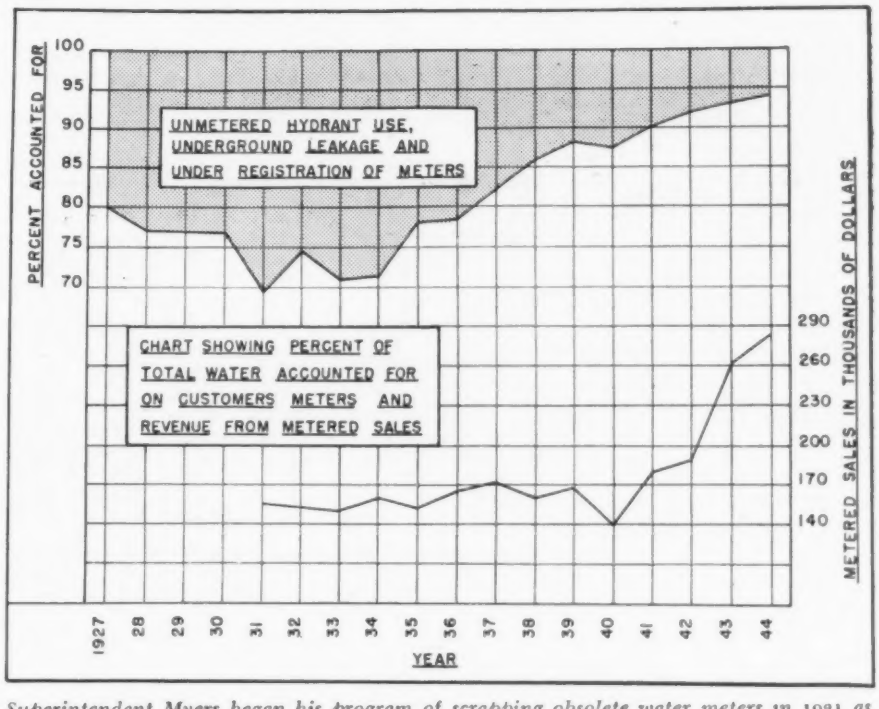
Under-registration of meters Superintendent Myers termed the "largest water thief." In the Kenosha system, 37 percent of the water is delivered to industry through 75 meters. Thus the department can insure accurate metering of 37 percent of its entire output by checking a relatively small number of meters. On one particular recent examination, four of these meters showed 71 to 86 percent slow, three were 41 to 50 percent slow, nine were 31 to 35 percent slow, and eight were 12 percent slow. He expressed preference for a battery of 2-inch meters in place of a compound meter, since this arrangement was more flexible and individual units were easier to replace and test.

All meters are tested for an accuracy of 97 percent at flows of ¼ gpm and 90 percent at ⅛ gpm. Kenosha practice calls for a cycle of inspection of 10-year frequency for small meters, and annually for large meters. The older meters with unreliable accuracy are replaced under the Kenosha program. Since 1931 Superintendent Myers has replaced 20 percent of his meters.

Testing of these old meters demonstrated the wisdom of the removal program. Only a few ran accurately at the ¼-gpm rate and many were extremely slow at the 1-gpm rate. Tests of the new meters revealed an average accuracy at ¼ gpm of 97.95 percent and at ⅛ gpm of 95.29 percent.

"I would like to commend the meter manufacturers for having done a magnificent job," said Superintendent Myers. "At a time when the AWWA specifications were holding the umbrella over a lot of weak sisters, the more aggressive manufacturers designed a meter far superior to anything the trade was then demanding. They deserve great praise."

The Kenosha water works has an average peacetime load of 4.8 mgd. Metered sales in 1941 were $23,000 above those of 1934.



Superintendent Myers began his program of scrapping obsolete water meters in 1931 as part of his program eliminating unaccounted for water. Notice that in 1931 he could account for 70 percent of the water pumped and in 1941 for 94 percent

Dearborn Paving Design Eliminates the Gingerbread

By WM. S. FOSTER
Engineering Editor
The American City

Progressive pavement design that eliminates waste characterizes the street surfacing improvements in Dearborn, Mich. The program centers around these points:

1. Ample yardage to make bidding interesting to contractors.

2. The use of a light section with steel eliminated and expansion joints extended to a maximum of 600-foot intervals.

3. The construction of the curb and gutter integrally with the slab.

Costs of this paving have been held to the low figure of approximately $2.00 per yard and the assessment method has worked well. The city's experience with vinsol resin cement also deserves attention.

RED STORRER, City Engineer, Dearborn, Mich., likes to tell this story about his early paving experience. It is significant because it shows how, early in his engineering career, he began questioning certain traditional principles in paving design.

"When I was inspecting a street paving job," he relates, "that we were building during my younger days in accordance with what we then considered good practice, one of my friends asked me why the curb had to be separated from the slab by a strip of mastic or expansion joint. I thought for a while and finally gave the only reason I could think of—that the plans called for it and that the boss wanted it. I couldn't justify it from a functional standpoint at all.

" 'That stuff costs money,' my friend said, 'and doesn't help the slab a particle. When I get something to say about design, it goes out.'

"I didn't forget that little incident, nor what he said," Fred continues, "when I later found myself in a position to do something about it. All the little extras that paving engineers are so inclined to put into their slabs cost money and consequently run up the price per square yard. They unfortunately represent a slavish following of precedent rather than individual analytical thought."

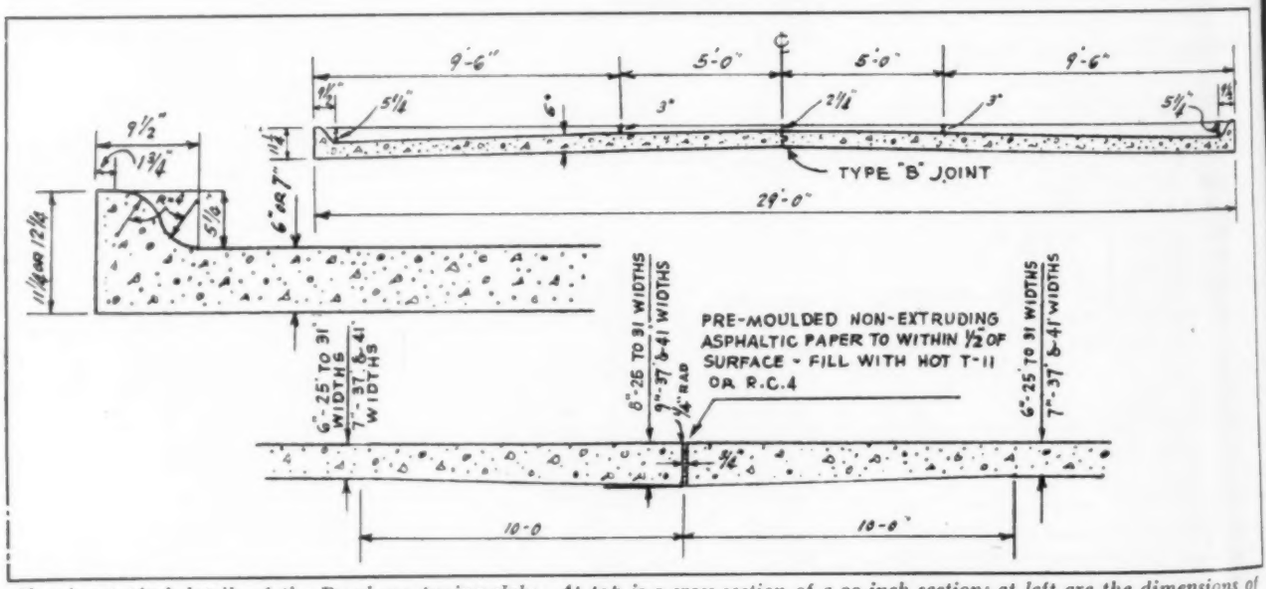
Dearborn's paving program gives some refreshing insight into street surfacing practices that should make this type of municipal improvement within pocket-book range of many other communities. The work began because of the growth of the residential areas of this community during the war. Most of the new houses are of the relatively low-cost type and are concentrated in one section of the city. Street surfacing of some kind was needed to make the streets serviceable and to make the housing more attractive. . . . Ask any housewife what she thinks of living beside a dusty, unimproved street! The paving, therefore, in practically all cases, was to be subjected only to residential traffic.

Before jumping at conclusions regarding the Dearborn paving program it should be in order to examine it closely and see what makes it tick. Here are some of the principles that Engineer Storrer follows in making his design.

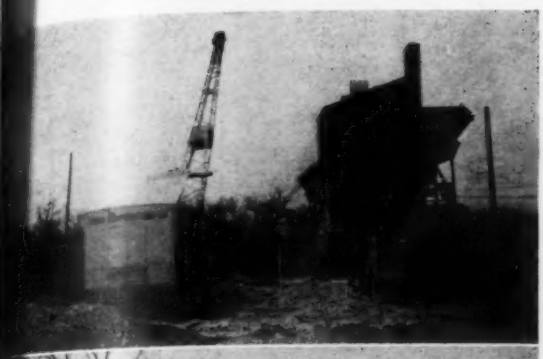
First of all, he limits paving each year to a definite district that has enough yardage to make the job attractive to contractors. As a matter of fact, he states that the city gets rather firm about this and refuses even to consider work outside the selected area. No community, he feels, should embark on any paving program that involves less than 50,000 square yards unless it is ready to pay a premium to the contractor covering his costs in setting up his plant. In 1944 Dearborn paved 123,000 square yards of streets; last year the figure went to 129,000; this year's program includes 141,000 yards; and 1947's 219,000. In every case the streets to be improved are close together, making operations for the contractor easy and production line methods possible.

Slab Design

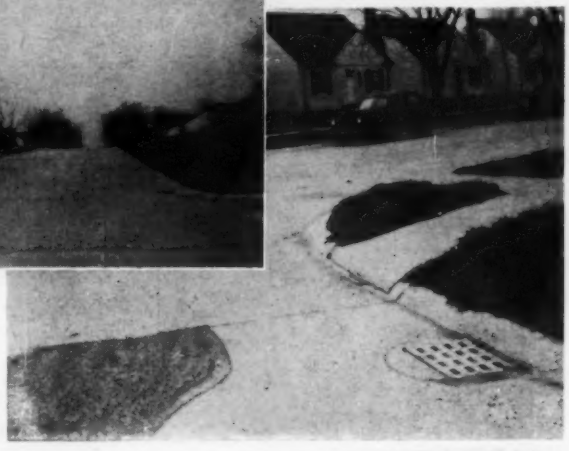
The next feature of significance is the actual design of the slab. Engineer Storrer rarely uses a slab thickness of more than 7 inches; 6 is used most frequently. The curb is cast integrally with the slab itself giving structural



Showing typical details of the Dearborn paving slabs. At top is a cross-section of a 29-inch section; at left are the dimensions of the rolled curb; and the bottom view shows a typical expansion joint. Note that the slab at this point has been widened to 8 inches



LEFT: *Dearborn's paving program always includes enough yardage to make it worthwhile for the contractor to set up a large and workmanlike installation. This shows a Northwest shovel serving two Butler aggregate bins. Between them is an automatic cement-batching plant. The bins can load double-batch trucks in a single operation*



ABOVE: *Engineer Storrer does not like to warp the paving surfaces to conform with the ground slopes. Notice in this case that the houses on the right are at a much higher elevation than those on the left. Nevertheless he has equalized this by grading rather than by raising the right-hand side of the pavement.* RIGHT: *This shows how the sidewalk is notched into the curb rather than butting against it, thus avoiding the possibility of breaking in case excessive expansion in the sidewalk occurs. The slope in the foreground shows some of the effect of spalling because of salt application despite vinsol resin type of cement. The spalded area has been covered by a coating of tar and chips*

strength to the slab, making a thickened-edge section unnecessary. The slab, to all intents and purposes, has no reinforcing. Reinforcing steel, Engineer Storrer reasons, has no structural purpose other than that of absorbing temperature stresses which, he feels, can be controlled better by the use of well-placed contraction joints, as C. L. Wartell, city engineer, Seattle, Wash., has done for many years.

Of immediate interest is the omission of any dowel steel to transfer loads across the joints and hold the abutting ends of the slab to grade. If irregularities appear, he plans to put the slab to a true grade by mud-jacking. The design requires that abutting ends of slabs be thickened.

Also of significance is the unusually long distance between expansion joints. The Dearborn practice is to install joints at intersections only unless the distance between joints would be greater than 600 feet. The specifications call for the installation of a one-inch non-extruding mastic joint at these intervals and a dummy contraction joint every 15 feet. The contraction joint consists of a plane of weakness scored for a depth of 1.5 inches for the 6-inch slab and 1.75 inches for the heavier 7-inch section.

The curb, which is 5¼ inches high, is a modification of the standard 6-inch curb customarily seen in city streets. Its lower, rolled section makes it a sort of compromise between a city street curb and the curb used on highways. Cars can drive over it, Engineer Storrer points out, but its height discourages this practice.

Sidewalks Receive Attention

Another interesting feature is the design used at intersections to avoid the possibility of the sidewalk's pushing through the curb and breaking it. Since sidewalks do not get the same careful maintenance that is given streets, their contraction joints fill with dirt and sand so that they expand in length much more than the pavement does. The Dearborn design calls for the curb to be notched so that the sidewalk slides over it rather than bearing against it.

The mix of the concrete itself is about the only feature of the paving program that has not been changed. The proportions, designed by the Dearborn engineering staff, produce a concrete of 2,500 psi in 7 days or 4,000 psi in 28 days. The components of each batch were 1,690 lbs. of sand to 1,813 lbs. of slag coarse aggregate, including aggregate moisture, and 705 lbs. of cement. Each batch produces 1¼ yards of concrete.

Air-Entrained Cement Experience

Engineer Storrer has been experimenting with vinsol resin cement to produce the air-entraining feature but to date has experienced only indifferent success. Chief among the difficulties has been the computation of absolute volumes when figuring the yield that the mix produces. Uncertainties regarding the amount of air entrained aggravate the problem, he reports. Tests conducted last year show a density substantially equal to or slightly less than the figure expected for the normal portland cement concrete. This is despite the fact that the concrete "acted" as though it were air-entrained. It did not bleed and had that jelly-like texture with a rubbery-sandy surface which is typical of this type of pavement.

A bit more serious is the reaction the pavement had to salt. During the winter of 1944-45 Dearborn maintenance crews applied cinders mixed with salt as an anti-skid measure to some new pavement built with air-entrained cement. The following spring the slab suffered a certain amount of scaling.

"It is a little difficult to understand the reason for this," Fred Storrer states. "We attempted to do the work strictly in accordance with approved recommendations but there must have been some slip-up somewhere. I believe that we have still to learn how to obtain the proper amount of air entrainment."

That winter's experience with the air-entrained cement did not destroy his faith in it, however, since it was still incorporated in the 1945 program.

The method of construction conforms to that used on any well organized job of this type. The contractor chose to lay one-half of the slab at a time. He used Butler bins to proportion the sand and coarse aggregate and a Blaw-Knox bulk cement bin, thereby making all operations mechanical. He used a 32-cubic foot Koehring mixer to lay the concrete and cured it with Truscon Trucure membrane.

The Pavement Cost and How It Is Assessed

The cost of these municipal improvements has been encouragingly low in view of today's inflated prices. The bids ranged between $1.69 to $1.85 per square yard depending on the thickness of the slab. This means, by the time that all "extras" are fig-

Lithographed on stone by Edward A. Wilson

Supply lines, deferred throughout the war years, are now a "must" in many communities. They represent a long term investment for taxpayers. The pipe used should have a known record of long life and low annual maintenance cost. It should be confidently expected not only to outlive the term of the bond issue, but to serve for generations after the bonds are retired. It will if it is U. S. Super-de Lavaud Cast iron pipe, centrifugally cast in sizes up to 24 inches, or U. S. Pit Cast pipe made in sizes up to 84 inches.

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ired into the job, that the property owner pays about $2.25 per square yard. The method of assessment against the property owner is interesting. The payments cover a period of five years and are solely on a front-foot basis without other "benefit" basis.

Dearborn eases the assessment against corner-lot property owners by a unique adjustment of costs. Many of these lots measure roughly 40 by 125 feet and if an assessment were based on the full 165 feet at an average figure of $4.50 per lineal foot, the costs would run uncomfortably high. Consequently, Dearborn uses the narrowest dimension of the lot to figure the assessment for either street that the corner property faces. To make this computation, the engineering staff calculates the total amount of yardage involved with the district to be paved; the assessors then determine the total number of lineal feet that will carry this construction cost, and arrive at a unit cost. Thus they spread the cost proportionately among all those whose property abuts paving improvement.

Dearborn has also used the asphalt type of surfacing in this street paving program. Here is a street laid in 1940 that used a crushed slag base with an asphalt binder and an inverted penetration, and a plant mix tar wearing surface. Notice that the sidewalk extends through the curb even on these earlier designs

Gearing Municipal Pay to the Cost of Living

THERE are four ways of raising a municipal employee's pay without raising his pay rate. These were outlined by Ovid B. Blix, Associate Chief Examiner, City Service Commission, Milwaukee, before the Wisconsin section of AWWA in Milwaukee recently. They are, what Mr. Bix calls:

1. The "hit and miss" system
2. The "pork chop" system
3. Time-and-a-half
4. Cost of living plan

The *"hit and miss"* system, Mr. Bix explained, consists of granting raises in an unorganized manner, showing preference to those who are better liked, those who have political power, or simply to the most vociferous.

The *"pork chop"* system consists of granting a bonus of a similar amount to all and wage increases on a descending scale varying inversely as the wage bracket increases. This operates on the theory that, regardless of annual salary, all people eat substantially the same amount of food and thus require roughly the same amount of money to meet cost-of-living increases. It furthermore advances the premise that those in the higher brackets can absorb the increased expense that the cost of living entails and thus do not need as great an increment. Its disadvantage, Mr. Bix pointed out, is the injustice it works by penalizing the able employee.

The *time-and-a-half* system, used extensively both by government and industry, grants a premium for overtime; however, it has a great disadvantage in that pay is reduced when cost of living is highest, and appears to have resulted in many of the present labor-management difficulties, Mr. Blix believes.

The *cost-of-living* plan adjusts wages according to a flexible scale, increasing and decreasing as the cost of living varies. There are two indices that can be used to adjust this cost of living, Mr. Blix stated. These are either the National Industrial Conference Board index or the Bureau of Labor statistics index.

Milwaukee uses the cost-of-living plan with pay increments adjusted according to a fixed basic salary for all employees, regardless of wage scale. The adjustments change each June 15 and are based on the January 1 index figure since a certain lag is required to adjust budget calculations. Officials instituted the policy in 1943 using 1939 as the year on which calculations should be based. The first pay increment amounted to $30.64. The 1945 figure has been $32.14, while the increment for 1946 will go to $36.44.

Municipal Ownership No Threat to Liberty

IN AN article entitled "Is Municipal Ownership a Step Toward Socialism?", which appeared in *The Daily Bond Buyer* for November 26, David M. Wood, of the firm of Wood, Hoffman, King and Dawson, of New York, points out that municipal acquisition and operation of utilities is entirely compatible with the existing economic system. The writer contends that there exists no evidence whatsoever that businesses avoid those municipalities which have acquired public utilities and move to those which have not. On the contrary, municipalities which own their utilities have a distinct advantage in advertising their attractions to businessmen, and so far nobody has claimed that public utilities encroach upon the liberty of either private citizens or business.

The writer adds as his personal opinion: "If it were the central government which was acquiring these utilities, I would oppose the movement to the best of my ability, but I can see no danger to liberty and progress in the acquisition of public utilities by the people of the localities they serve."

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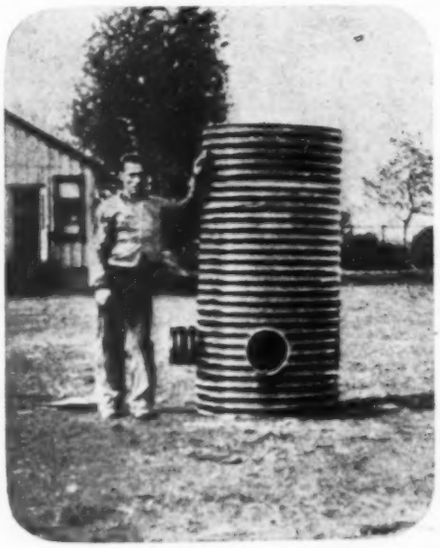
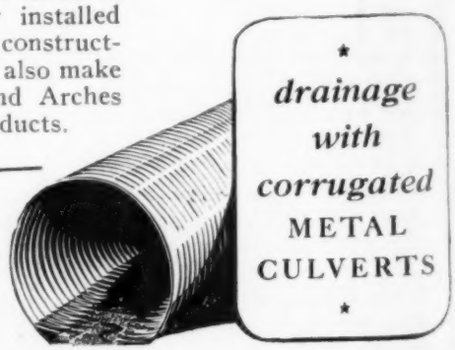
Exclusive sales representatives for Carnegie-Illinois Steel Corporation drainage products for highways, counties and municipalities in the areas shaded on map at the right.



At left—A typical manhole manufactured at our plant . . . made to any specification—easily installed without the necessity of constructing concrete forms. We also make Sectional Plate Pipe and Arches and fabricated metal products.



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A Sanitary District Looks Forward

How the young and vital Sanitary District of Hampton Roads, Va., is setting its sights for sewage treatment works that will be more than a health-control measure. It will ultimately reclaim large shellfish beds the loss of which has been an economic drain to the state and the area.

ONE OF the most difficult sections of the United States to plan for, the Hampton Roads Sanitary District, has come out with a sewage disposal project that commands respect. It commands respect because the District is favored, or burdened if you like, with one of the finest harbors on the eastern seaboard, a harbor which during the war was teeming with U. S. Navy activity and packed with shipbuilding facilities. In this area any analysis of a homey and domestic subject like sewerage must take into consideration vital national problems such as the disposition of our fleet and complex international topics relating to international trade and the flow of exports and imports through the Hampton Roads harbor.

The Hampton Roads Sanitary District has analyzed these factors and their relation to the sewerage problems of the area when making plans for one of America's largest and most comprehensive sanitary districts.

How the District Began

The Hampton Roads District came into existence to correct unwholesome conditions that were actually causing an important economic loss to the area. The need arose in 1925 when studies by the Virginia State Department of Health resulted in the condemnation of about 5,000 acres of oyster beds in Hampton Roads. Since then pollution has affected other areas until today practically all the oyster beds are restricted and their profits literally go "down the sewer."

The first step towards the formation of a district occurred two years later when the Virginia General Assembly organized a commission to investigate the sea food industry in that state. The commission argued for the immediate abatement of this pollution. There was a great deal of talk but little action. In 1933 there followed another report from a commission investigating under orders from the General Assembly, and after that, a very comprehensive study by the U. S. Public Health Service. The studies showed that nearly 26 million gallons of raw sewage were being discharged daily into the waters of Hampton Roads and that this figure probably would increase to 64 million by 1980.

The U. S. Public Health Service recommended that one sanitary district be formed to finance, construct, and operate the proposed sewerage works which would include six sewage treatment plants, designed for a 1950 flow of nearly 41 mgd together with appropriate interceptor and collector systems. Analysis showed that the cost of these facilities would run to approximately $8,370,000.

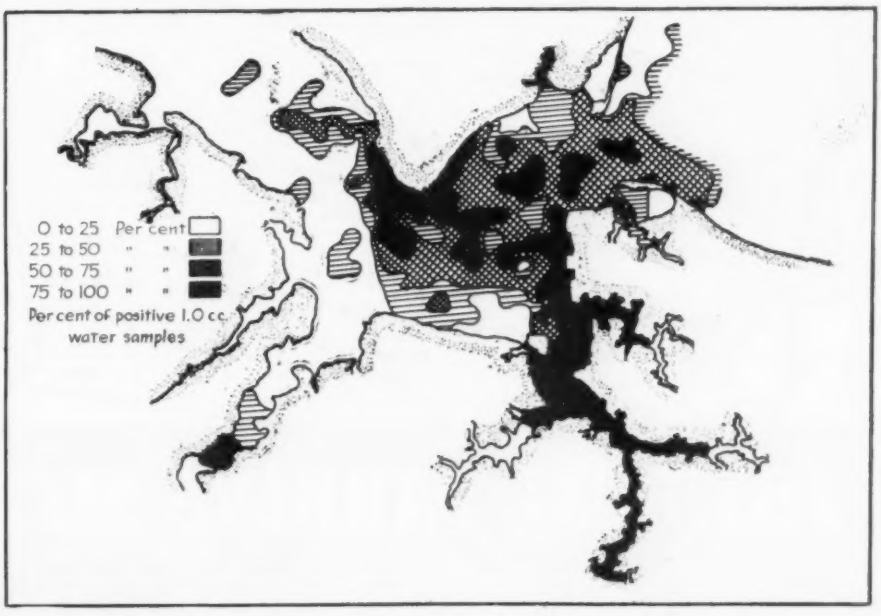
Consequently the State Assembly in 1934 created the original Hampton Roads Sanitation District authorized by the legislature in 1940. The District comprises some 1,160 square miles. However, nearly 90 percent of the population is located within an area of about 94 square miles on the north and south shores in the immediate vicinity of Hampton Roads. This is the portion that is primarily responsible for pollution of the Roads and which requires the provision of adequate disposal facilities.

The District's first problems, of course, were those of appraising the reports already delivered, analyzing the impact of the current war on the District, and of studying what the future population of the area would be. The population is concentrated mainly around the cities of Newport News, Hampton, Norfolk, Portsmouth, and South Norfolk, and the counties of Elizabeth City, Warwick, Norfolk, and Princess Anne. The 1944 population is estimated at approximately 427,000 on a sample census.

Studies showed that the average increase per decade between 1900 and 1940 was about 10,000 on the North Shore and 22,000 on the South Shore, or in percentages, 17.7 and 15.6 respectively. The impact of World War I brought a population increase between 1910 and 1920 of 52.2 percent on the North Shore and 33.2 percent on the South Shore. The District lost only 3.9 and 2.9 percent respectively during the following decade. In spite of the fact that shipbuilding activities were curtailed sharply as a result of the 1921 Disarmament Conference, manufacturers turned to other lines and thus were able to maintain a large share of their peak wartime employees.

Developments during World War II have paralleled closely those in the last war. As a result of shipbuilding and military activities, the population increased 44.7 percent between 1940 and 1944. Of this the male labor force increased 42,125, or 36 percent, and the female 32,522, or 88 percent. Many of the women, the District concludes, will drop out of the labor force, thus easing the employment problems during the reconversion period.

Important to the District is United



U. S. Public Health Service studies indicated pollution of the Chesapeake Bay, as shown on the diagram above

Just what are the benefits of Metered Parking?

. . . read what a few satisfied users of Dual Automatic Parking Meters report:*

"Wonder how we got along without them!"

"Meters have helped alleviate the congestion. Merchants and business men in the downtown area wonder how we got along without them," says Memphis, Tenn.

"Shopkeepers express hearty approval!"

"Decidedly satisfactory. The meters have driven all-day parkers to move to remote areas or parking lots. The public and shopkeepers express hearty approval," says Buffalo, N. Y.

"Very satisfactory!"

"Merchants and business men now approve meters after having fought their installation," says Minneapolis, Minn.

"Parking turnover tripled!"

"Turnover in curb parking space about three times what it was formerly without meters," says Seattle, Wash.

"More will be installed!"

"As soon as more meters are available, more of them will be installed in downtown area," says Akron, Ohio.

And these are only five out of the 166 cities that installed Duals before the war.

**Based on a survey conducted by Indianapolis Real Estate Board and reported March, 1945.*

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60 MINUTE PARKING
9 A.M. TO 4 P.M.
WHITE POINTER SHOWS UNEXPIRED TIME
GREEN SIGNAL FALLS AT END OF PARKING PERIOD
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States Fleet. Taking cognizance of the nation's apparent intention to maintain a large navy, the District estimates that approximately 50 percent of the wartime fleet will remain in active service and the remainder be held for standby work. This, it is pointed out, presages a much higher level of naval activities in the area than during prewar days.

The District also recognizes the loss of shipbuilding work. However, it is pointed out that business is planning for peacetime production and that the tremendous demand for consumer and durable goods should make it possible for the area to capture a portion of the market.

The Relation of International Trade

The analysis of the District's sanitary needs includes a foresighted estimate of the international trade the area will enjoy. The District points out that Hampton Roads is one of the finest harbors on the Atlantic coast and is also the terminus of several railroads. It further points out that since the war has cut deeply into the nation's mineral reserves, a larger amount of raw material probably will have to be imported and that Hampton Roads probably will participate in this activity.

Taking its cue from conditions after World War I, the District anticipates that a net decline of 15 percent in population during the next decade, or around 25,000, might be expected; however, it clearly emphasizes that an orderly and planned program of conversion could cushion the area against the prospective economic shock.

The next step was an appraisal of the area and the present facilities that it contained. According to present estimates about 53 mgd of sewage containing some 45 tons of suspended solids are being discharged into Hampton Roads and its tributaries within the metropolitan district. Estimates also indicate that an average of 240 billion gallons of tidal water flow into Hampton Roads daily. This would allow each volume of sewage to be diluted in more than 4,500 volumes of water which will be relatively high in dissolved oxygen. District studies indicate that the provision of screening primary sedimentation and chlorination together with proper outfalls should satisfy all the requirements for adequate treatment and disposal of sewage.

Plans for the treatment of the sewage contemplate the natural division of services between the North and the South Shore. On the North Shore (Newport News, Hampton, Phoebus, Fortress, Monroe, Buckroe Beach, and parts of Warwick and Elizabeth City counties) all sewage will be treated in the Boat Harbor sewage treatment plant located at the mouth of the James River and Hampton Roads, with the outfall extending 2,700 feet to the channel of Hampton Roads. Two major trunk sewer systems serving the entire North Shore will converge at the treatment plant.

The trunk sewers on the South Shore (Norfolk, Norfolk County, and Berkley) can be conveniently separated into three systems: one tributary to the Army base plant located adjacent to the Navy Operating Base; one tributary to Lambert's Point plant in Norfolk: one tributary to the proposed Pinner's Point plant which will not only serve the city of Portsmouth but also the adjacent cities south and west of Portsmouth in Norfolk County.

The District integrates the present Army Base system with the overall comprehensive plan. This Army facility consists of a treatment plant and outfall on the Base property on Hampton Roads. A main trunk sewer extending north from this system serves the Naval Operating Base and other developments.

The Lambert's Point System contemplates a new treatment plant with an outfall to deep open water near the mouth of the Elizabeth River, and trunk sewers serving all of the city of Norfolk south of the Lafayette River and adjoining areas in Norfolk County.

Areas in Norfolk County south and west of Portsmouth will be served by the proposed city of Portsmouth plant at Pinner's Point. This system will consist of two separate sections, one serving the western district to the west and the other the Craddock area in Deep Creek district. A number of small pumping stations will be required which will deliver sewage to the Portsmouth trunk sewers.

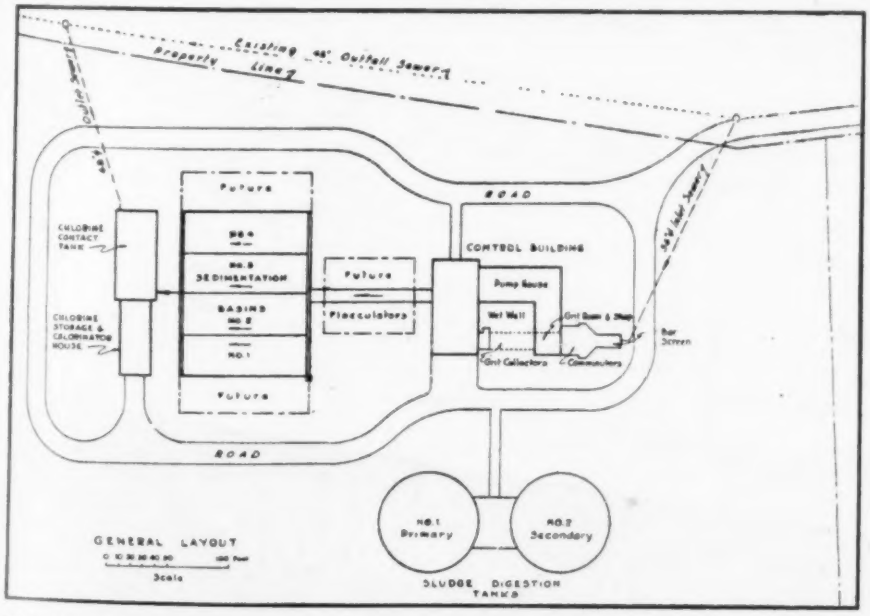
Treatment Plant Designs

As indicated previously, the treatment will include coarse and fine screening, grit removal, sedimentation with mechanical sludge removal, chlorination, and outfalls to deep open waters. The plans also include sludge digestion, with collection of gas for utilization for heating and power, and also vacuum filtration.

Preliminary designs for the Boat Harbor treatment plant provide for serving a population of at least 110,000 people. At present the District estimates that there are approximately 133,000 people in the area, not all of whom will be reached by the district facilities; on the other hand, the area anticipates a decrease in population during the post-war period as military activities slow up. Recognizing these factors the District expects the planned facilities to serve adequately for fifteen to twenty years and that additional units and equipment can be supplied at small cost.

The Army Base plant has been designed to serve a total of 95,000 persons. The present population within the civilian areas of this portion of the District total roughly 45,000 persons. In 1943 this figure was about 83,600 and later probably jumped to

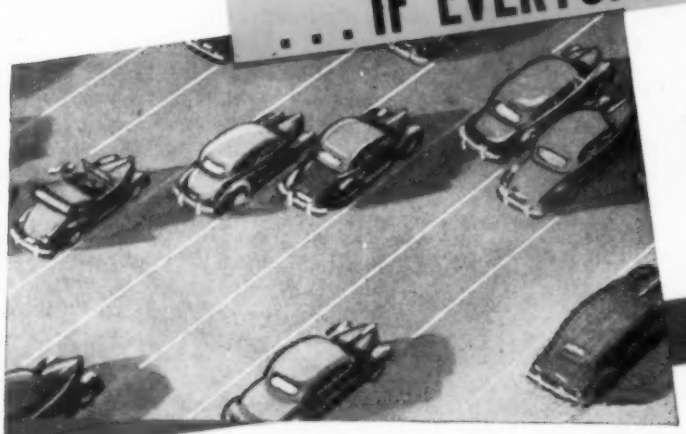
(Continued on page 127)



This drawing shows the general arrangement of the Army base sewage treatment plant at Norfolk, Va., which is being built as a part of the overall sanitation program in the Hampton Roads area

To move 13,500 persons per hour (at peak loading), in one direction, would require ONE STREETCAR LINE, the equivalent of one traffic lane.

HOW WIDE WOULD MAIN STREETS HAVE TO BE . . . IF EVERYONE RODE IN AUTOMOBILES?



To enable automobiles to equal the capacity of the car line, NINE TRAFFIC LANES would have to be added to existing street space!

At the national average loading of 1.75 persons per vehicle, each automobile passenger occupies 500 square feet of street space. When riding in a public-transit vehicle, which can carry at least 50 persons, each passenger needs only 70 square feet.

In addition, each automobile passenger requires 140 square feet of street space for parking—almost as much space as an office worker is allotted to do his work!

Public-transit vehicles require one-seventh as much space as private vehicles, and require no street parking space. That's why you can increase the efficiency of your existing streets, ease traffic congestion, and avoid expensive street widening by teaming up with your public-transit company. Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

VEHICLES PER HOUR REQUIRED TO CARRY—

Type of Vehicle	500 Pass. Per Hour	1000 Pass. Per Hour	5000 Pass. Per Hour	10,000 Pass. Per Hour	40,000 Pass. Per Hour	80,000 Pass. Per Hour
Automobile, 1.75 pass. (prewar average)	286	562	2860*	5620*	22,860*	45,700*
Bus, 30 pass. (seated)	17	34	167*	334*	750*	2687*
Trolley coach, 44 pass. (seated)	12	23	114	227*	810*	1820*
PCC streetcar, 54 pass. (seated)	10	19	93	185*	740*	1480*
Rapid transit, 10-car train, 100 pass. per car	....	1	5	10	40	80*

*More than one lane required (24-second headway minimum except rapid transit, 1.5 minutes). Table based on normal or seated load.

GENERAL ELECTRIC

107-147-9560

Traffic Control and Facilitation

Cities in for Epidemic of Traffic Trouble

MUNICIPALITIES will be confronted with traffic and parking problems of primary magnitude, and they will face them with little or inadequate planning according to an article on the front page of *The New York Times* for December 31, 1945 by Bert Pierce.

Dispatches from correspondents of that newspaper indicate a feeling of helplessness in many communities caught in the swirl of traffic with no adequate programs of adjustment. Old methods are being used and new ideas sought for to meet the situation. Specific conditions revealed by *The Times* are outlined below.

NEW YORK CITY—Several measures have been adopted during the last few months. Some success has been achieved through traffic reshuffling. It is admitted here, however, that they are only temporary remedies and that the hardest tests of efficiency will come with the outpouring of new cars.

LOS ANGELES—Parking is atrocious and growing worse. Over-all planning, running into millions, now is being talked about.

BOSTON—Parking is in a chaotic condition and Governor Maurice J. Tobin estimates the annual economic loss of the trucking business alone due to traffic tie-ups in the city at $40,000,000.

PROVIDENCE, R. I.—Downtown parking is bad and growing worse. Chief of Police James A. Murray says that, because of losses to the armed forces and war industry, there are not enough patrolmen to enforce regulations. Buses and trolleys during the rush hours take from fifteen to twenty minutes to go around one loop when it should take only four minutes.

HARTFORD, CONN., is considering a system of speedways above and under ground to relieve intolerable conditions. The city requires 3,000 additional parking spaces to accommodate 46,000 cars and passenger-carrying vehicles which attempt to enter and stop in the city daily.

NEW HAVEN, CONN.—Need for parking facilities is one of the major contributing factors to a noticeable deterioration in some parts of the downtown business and shopping area. This problem has long been known and back in 1939 the traffic bureau of the Police Department installed parking meters in the principal streets. Off street parking facilities provide for only 3,845 vehicles in this city of 160,000 population.

BRIDGEPORT, CONN. — Mayor Jasper McLevy says the situation in Bridgeport is better than in most cities along the Atlantic seaboard. Mayor McLevy urges the construction of a $1,000,000 bus terminal on the Plaza, to provide one central bus stop for shoppers. There are fifteen parking lots downtown, but many more are needed.

NEWARK, N. J.—Every parking lot downtown has been filled to capacity during the last two months. Foreseeing a 50 percent traffic increase, the large department stores are buying or leasing property. One of the largest stores has acquired fourteen lots.

PATERSON, N. J.—Chief of Police James Walker, following a conference by Mayor William P. Furrey and the Fire and Police Commission, opened additional one-way streets, eliminated parking on specified thoroughfares, and barred left-hand turns at several intersections.

MONTCLAIR, N. J.—Reduction to a minimum of traffic congestion and parking difficulties in this community is attributed to the installation of parking meters in the principal business districts and the spaces offered by three municipal parking garages accommodating 310 cars. Four other projects, to be completed in 1946, will provide space for 400 more cars.

PHILADELPHIA — Parking has been banned on mid-city streets between 8 a.m. and 6 p.m. for a 90-day trial which began January 2. The City Council's finance committee has appropriated $20,000 for the Bureau of Traffic Engineering to conduct an off-street parking survey under Robert A. Mitchell, Chief Traffic Engineer.

PITTSBURGH—Officials of the Pittsburgh Regional Planning Association expressed concern over the possibility of many merchants closing up shop if traffic problems become more acute in the "Golden Triangle." A large increase in off-street parking facilities is forecast.

WASHINGTON, D. C.—Due to parking and traffic congestion, many of the large stores are leaning toward decentralization by developing suburban branches. William Van Duzer, Director of Traffic, has suggested construction of an underground transportation system to remove street cars and buses from the streets.

BUFFALO—Parking meters were installed in the main downtown district several years ago, but off-street parking is badly needed.

DETROIT—Lack of parking facilities and the resultant traffic congestion has cost property owners in downtown area about $1,000,000,000, according to estimates by the Detroit Traffic Engineering Bureau. In 1944 there was a shortage of 2,000 car spaces and the figure is expected to be 5,000 by 1950. This is given as one reason for the location of business centers on the city's periphery, which reduced assessed values in the downtown section from $3,000,000,000 in 1934 to $2,000,000,000 in 1944. Now under consideration is the construction of an underground parking space.

CLEVELAND—Parking on Euclid Avenue has been prohibited beginning January 1, 1946. Street cars and buses were running forty minutes behind schedule and transportation officials blame downtown parking.

INDIANAPOLIS — The transit system, lack of a traffic program, and the scarcity of parking space are designated as combining to drive retail business to a suburban status in the city. The City Council has voted to install parking meters.

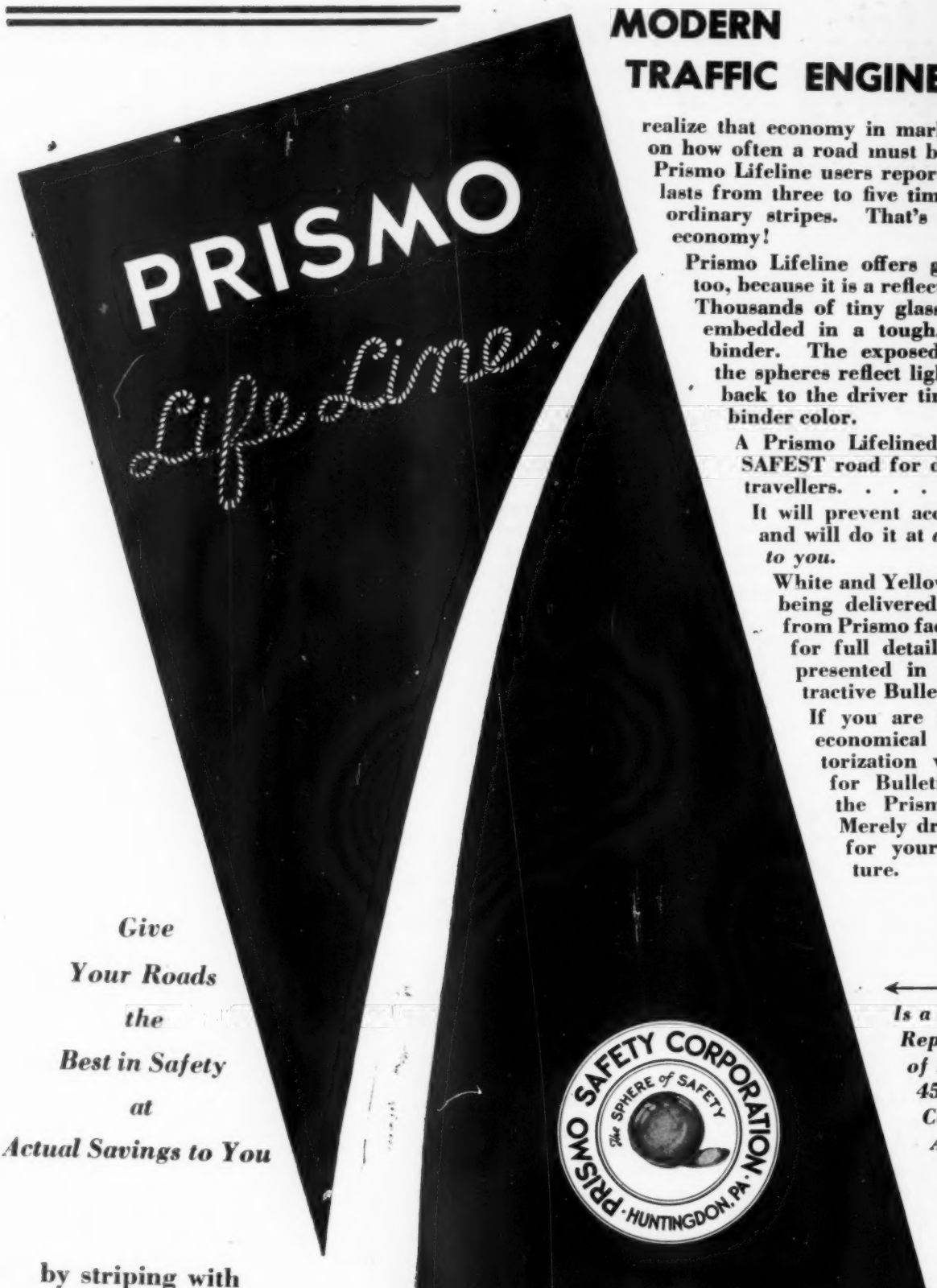
MEMPHIS—Parking conditions have forced consideration of a municipal parking structure along the levee. The incline of the levee would permit car owners to drive onto various floors at different levels.

ATLANTA—Requires 2,000 to 3,000 additional parking spaces, according to the Chamber of Commerce. Parking on congested streets is prohibited between 7 and 10 a.m. and 4 and 7 p.m.

NEW ORLEANS—The narrow streets of the French quarter cause the worst congestion. Christmas shoppers and sugar bowl crowds were too much for the arteries connecting with Canal Street and the commercial section. All lots and garages are filled to capacity daily, and overflow parkers find it necessary to leave their cars ten blocks from their destination.

MIAMI—Parking space, both street and off street, is at a premium and peak traffic comes next month. Miami Beach is installing 1,800 parking meters in an attempt to solve its difficulties.

ST. LOUIS—City officials and business



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A Prismo Lifelined road is the SAFEST road for day *and* night travellers. . . . . .

It will prevent accidents . . . . and will do it at *actual savings to you.*

White and Yellow Lifeline are being delivered immediately from Prismo factories. Write for full details graphically presented in our new attractive Bulletin 461.

If you are interested in economical sign reflectorization why not ask for Bulletin 244 . . . the Prismo Sign Kit. Merely drop us a card for your free literature.

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PRISMO SAFETY CORPORATION

Traffic Division

Huntingdon, Penna.

men have said they have been trying to find a solution to insufficient parking spaces for ten years. Recently W. H. Semsrott, Manager of the Associated Retailers of St. Louis, warned that if business values were to be maintained the present parking facilities for 23,000 motor vehicles would have to be doubled.

KANSAS CITY, MO.—City Council has voted to ask FWA for a $50,000 loan for preparation of plans for a $2,000,000 park and underground garage downtown.

CHICAGO—Leslie J. Sorenson, City Traffic Engineer, estimates that 100,000 motor vehicles enter the Loop every day and that 17,709 parking spaces are available, whereas there should be 55,000. Each parked car requires 240 square feet, says the City Club of Chicago, so that 55,000 cars would need 13,200,000 square feet—an area about twice the size of the Loop. City Club urges that greater use of public transportation be promoted by providing parking facilities at outlying elevated and suburban stations.

DENVER—With a population of 425,000, the city now has 368 parking lots and garages mostly downtown. Captain Henry Durkop, head of the Police Traffic Department says that, with these lots and a speed-up in street curb parking stimulated by parking meters, the problem is lightening. Parking meters have tended to discourage all-day parking on downtown streets and have prompted motorists to park in unrestricted zones and either walk or use street cars.

SALT LAKE CITY—Parking is a problem too serious to be solved here by the parking meters already installed.

SAN FRANCISCO—Parking conditions are reported to be the worst in the city's history. City officials are agreed that the long-range need is to get more persons on faster surface or underground transportation, so that they will leave their cars at home. A program for building ten underground private garages has been proposed by H. C. Vensano, Municipal Public Works Director.

SEATTLE — Traffic congestion has reached a point where motorists hesitate to take their cars in the business district during the rush hours. Curb parking is prohibited from 7 to 9 a.m. and from 4 to 6 p.m. A $16,000,000 long-range program is being considered.

Miami to Have Traffic Engineering Division

A RESOLUTION authorizing and directing the City Manager to establish a Division of Traffic Engineering within the Department of Public Safety was unanimously passed and adopted by the Miami, Fla., City Council at its meeting on October 3, 1945.

"I'll be glad when Centerburg gets an airport!"

Bicycle Ordinances in Pennsylvania

BECAUSE of the wartime increase in the number of bicycles on streets and highways in cities all over the country, it has become necessary, in many communities, to set up definite bicycle ordinances. The increased use of automobiles from now on will intensify bicycle problems. A survey among police chiefs in 30 Pennsylvania municipalities shows that 11 of these municipalities have special bicycle ordinances. Ten municipalities issue bicycle licenses, eight requiring licenses for residents only, and two requiring them for residents and non-residents alike. Fees of from 25c to 50c are required for the licenses and payment goes to the police departments, the city treasurer, or to the city proper. The town of Monaca issues an educational safety booklet that is given to each licensed rider, and four of the 30 municipalities have annual inspection for bicycle safety when licenses are issued.

All of the municipalities having bicycle licenses also keep a registry of the serial numbers of these vehicles. Practically every town reports that there has been a marked decrease in bicycle theft since the ordinances have been passed.

Since so many of the Pennsylvania towns have already passed these ordinances and regulations, the Pennsylvania Chiefs of Police recently published a model bicycle ordinance as a suggestion for towns planning to establish such rules. In part it includes: Licensing, registering and tagging of bicycles. Charging fees for each license and registration card and collecting additional fees for duplicates. Registration cards shall include a serial number, date issued, name and address of owner, make and name of each bicycle frame, and a record of all bicycle registration fees collected. Notifying proper authorities of change of ownership or sale of vehicle. Registering and licensing all bicycles to be used in rental agencies. Testing persons applying for license as to their ability to use and ride a bicycle, as well as a knowledge of safe riding rules and practices. An adequate headlight in front of the vehicle and reflector buttons in the rear for all bicycles in operation after dusk.

A Modest Friend of Good Transit Dies

AT INTERVALS averaging three months an AMERICAN CITY telephone would ring and a cheery voice would say: "Don't you think it's about time we had a little meeting to get up to date on transit? How about the Commodore at 12:30?" The voice belonged to L. T. Carter, Transportation Engineer of the New York Office of the General Electric Company. Mr. Carter died in Bronxville, N. Y., on November 23, 1945, after 41 years continuous G. E. service.

It was in 1936-37 that THE AMERICAN CITY undertook to acquaint city officials with the value of adequate local transportation and to improve the mutual regard of public officials and transit executives. A formal plan was developed and discussed with the late Martin Schreiber of the Public Service Coordinated Transport of New Jersey. Mr. Schreiber spoke warmly of L. T. Carter and recommended that the plan be discussed also with him.

The result has been nine years close association between THE AMERICAN CITY and Mr. Carter. First-hand knowledge had long since taught him the importance of mayors, councilmen, and city commissioners in transit plans. He was instrumental in the electrification of the New York Central System and the various subway lines of New York City. In 1931 he received the Coffin Award for unusual sales and engineering success in the installation of electric drive on gasoline buses for the Public Service Corporation of New Jersey. He was a man of principles, a friend and sound counsellor on modern electric transportation.

"People Never Notice Whether Their Street Lighting is Good or Bad"

DON'T YOU BELIEVE IT!

The most enthusiastic supporters of adequate modern street lighting are the people in the communities where it has been installed.

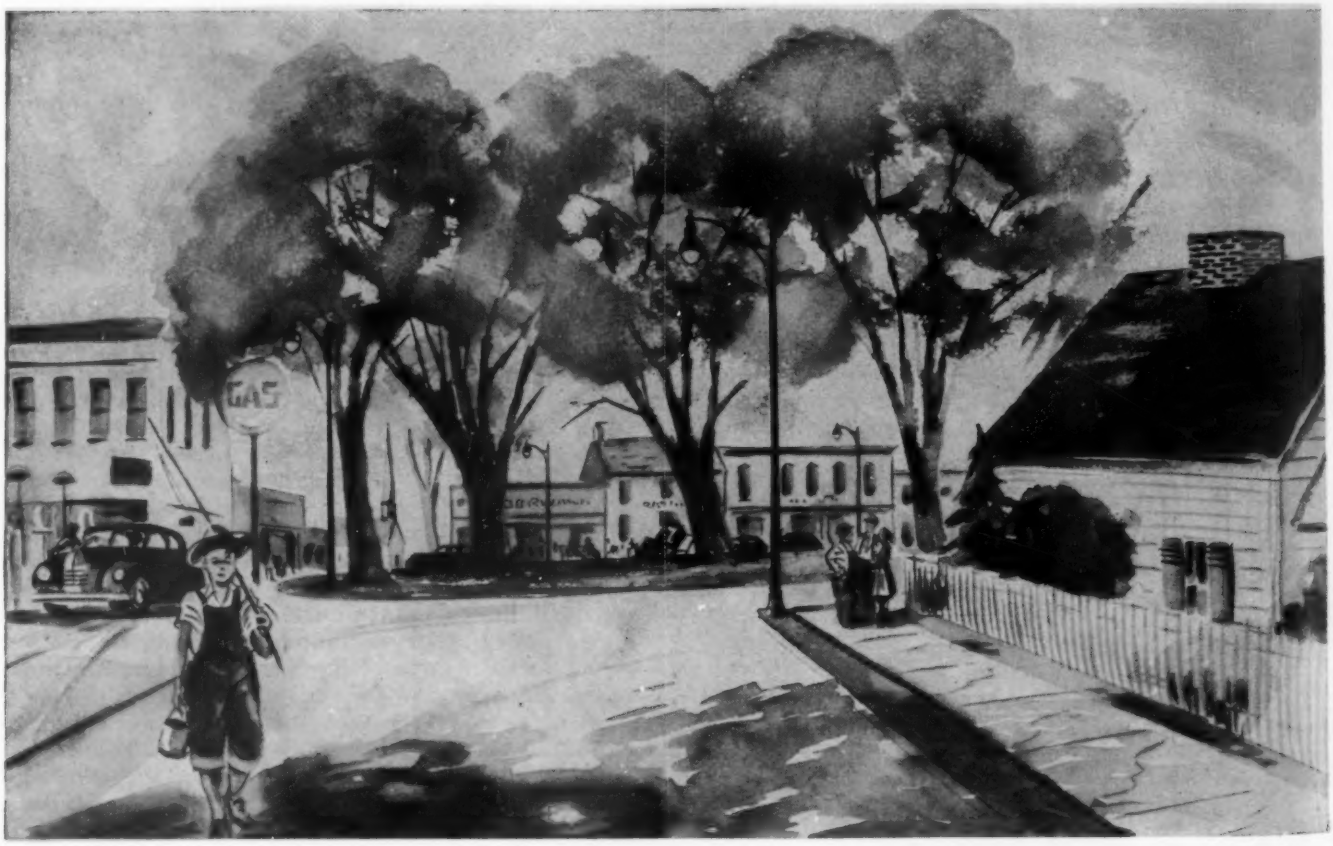
In a survey conducted two years ago by American City magazine it was disclosed that "Cities which have made recent improvements evidence greater interest in further improvements than do those cities with 1922 to 1927 installations."

In a recent article, the Director of Public Works of Flint, Michigan, pointed out that, "Since the first stage of Flint's street lighting program was completed, the City Commission has been besieged from all parts of the city for additional street lighting."

To further test this known fact—try taking a few of your influential citizens on a tour of nearby towns which have been recently re-lighted ...or just show them a few new street lighting installation photographs —and watch their quick reaction.

The only places where street lighting isn't noticed or *valued* are places where it has never been properly installed.

For details on today's better street lighting equipment and methods ... for news on what neighboring communities are doing... for facts on costs, *and savings*—contact your electric utility company today. The Street and Traffic Safety Lighting Bureau, 155 East 44th Street, New York 17, N. Y.



GOOD STREET LIGHTING • THE SIGN OF A GOOD PLACE TO *LIVE!*

Retiming of Signals Resulted in Fewer Accidents and Better Speed

New Control Unit for Fort Wayne Traffic

By JAMES T. WHITE
Traffic Engineer
and
ROBERT J. GASKILL
Supt., Signal Department
Fort Wayne, Ind.

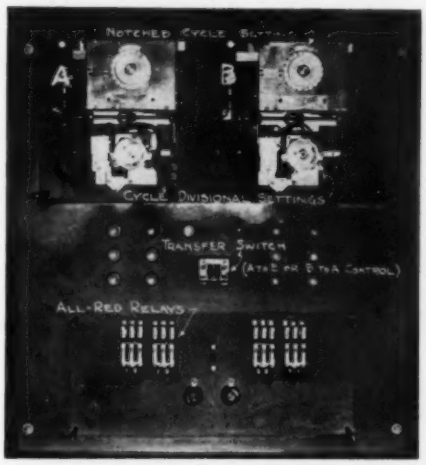
DURING the peak traffic year of 1941 nearly every motorist and pedestrian as well as traffic officers yelled for relief within the central business district of Fort Wayne, Ind.

Our central traffic control panel,* which regulated 41 signals, was so obsolete that cycle lengths varied with fixed settings and could not be adjusted to actual traffic requirements. The system had to be completely shut down in order to change timers. As the bearings wore in the timers, the time adjustment could not be properly regulated. The timer was interchangeable with all other timers used in Fort Wayne at that time, and each of the green circuits was adjustable from 10 seconds to 90 seconds, and the amber circuit from 1½ seconds to 18 seconds. It was found that the most satisfactory operation resulted from an 18-18 seconds green, with three second amber overlap. But the amber overlap was not the most desirable, and the red circuits, which were operated off the green contacts, also did not provide the most desirable operation.

In April 1942, the city put into operation a complete new central traffic control switchboard supplied by the Eagle Signal Corporation, Moline, Ill. This unit has flexibility and features of control and timing that were not provided with the old central panel.

Control Arrangement

Mounted on the control panel are two complete control units with a transfer switch that changes the operation from *A* unit to *B* unit without interrupting the control of the traffic signal system. The change-over takes place at the start of the Main Street green on the unit to be transferred. Each controller unit has arrangements to adjust the total time cycle from 35 seconds to 120 seconds. It is done by a notched dial on the front of the controller, which changes the time cycle in 2- and 3-second steps from 35 to 60; 5-second steps from 60 to 80; and 10-second steps from 80 to 100. The changes of the time cycle can be made while the controller is operating the system.



The control and traffic timing panel now in operation in Fort Wayne for regulated traffic movement

The former arrangement of signal indications was operated on a 70-second cycle throughout the whole of every day. The present cycle lengths are varied from 35 seconds during extreme light traffic periods of the day to 45 seconds during peak periods of the day, and schedules have been prepared for normal and peak week days, as well as to conform to Sunday traffic trends. It is interesting to note that the 70-second double block alternate arrangement only permitted a through traffic band of 12-seconds, while the present timing permits a 15-second through-traffic band width while operating on a 40-second cycle. Comparable through-traffic band widths are also available during periods of the day when the signal system is operating upon 35- to 45-second cycle lengths.

A speed-delay study showed that congestion was reduced and over-all speeds doubled with this equipment.

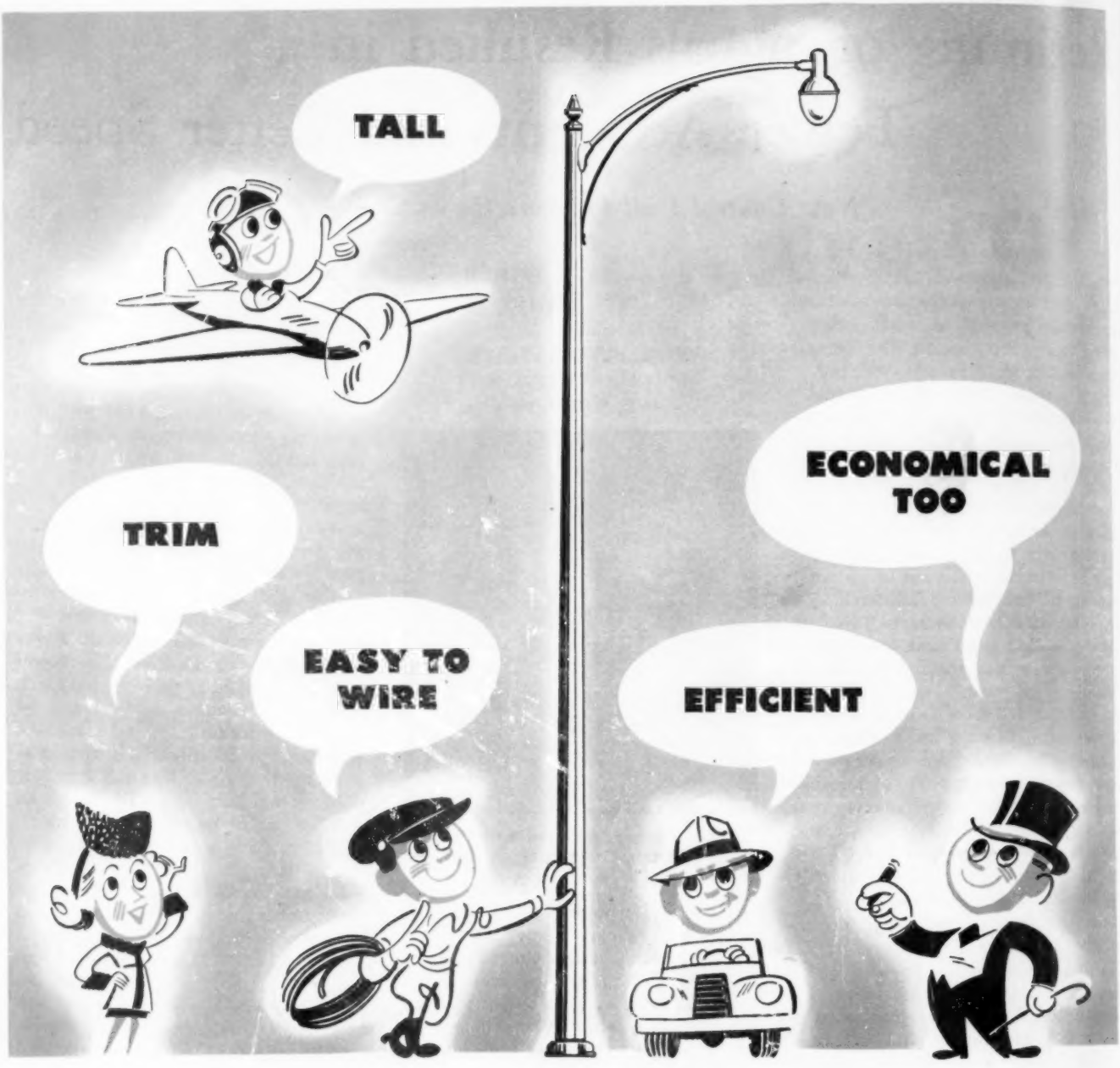
As for the problem of operating our present equipment and varying the cycle lengths throughout the day, this is accomplished on a manual basis which is possible because the installation is within the signal department operating room where all controls for communications and signal facilities are consolidated. These include the traffic control switchboard, the police radio transmitter and dispatching desk, the fire alarm system, the police call box system, and the PBX telephone switchboards of the police department and fire department. Dispatchers and operators handle all communications and emergency calls from this central location, so it is possible to have any traffic time changes made from the established schedule to take care of abnormal traffic conditions at a moment's notice, either by a call from the police signal box, by a radio call from a police car, or by public telephone.

Facilities are provided on the traffic control switchboard for an all-red feature to control the central district traffic lights and make the signals red on both the main and cross streets simultaneously. This feature is operated by remote control by the fire alarm operator by means of push buttons; the central district traffic system is split into two sections—North and South. Either section can be turned all red, and the other section is operated normally. Because of the location of the fire stations adjacent to the central district and the movement of fire equipment through the district, this feature is desirable in this community.

Further Expansion

While these improvements have afforded considerable relief in the movement and regulation of traffic within the central business district in the city of Fort Wayne, we are, nevertheless, considering further expansion of this particular program to include several of the nearby traffic signal installations bordering the central business district. These improvements will embrace pedestrian regulations in the form of "Walk and Wait" lights, and peak-hour regulation of vehicular traffic, by means of signals showing where turns shall not be made.

* In October 1926 the city of Fort Wayne installed a traffic signal system in the downtown district which was controlled from a switchboard located in the Police headquarters at the City Hall. This central control switchboard was manufactured by the Signal Division of the Tokheim Oil Tank and Pump Company, Fort Wayne, and consisted of a three circuit overlapping amber flasher, two manual switches for emergency operation, and relays to control an all-red feature. The switchboard was wired to provide two complete circuits to the outside plant in order to divide the downtown area into two fire lanes for the all red features.



HERE, to help you cope with modern high-speed vehicular traffic, is a brand new streamlined Union Metal street lighting standard—acclaimed by all who have seen it as the best yet. With light centers standardized at nominal 20, 25, 30, 35 and 40 foot heights, this new line is available with either plain round or octaflute *steel* shafts.

Brackets of the new 45 degree upsweep type come in 4, 6 and 8 foot lengths with a supporting scroll; or mast arms with top side-sway bracing may be secured in 10, 12, 15 and 18 foot lengths.

If a transformer is needed, a fabricated steel transformer base, which adds 1 ft. 8 in. to the pole's height, can be supplied. For complete information, get in touch with your electric utility company today, or write The Union Metal Manufacturing Company, Canton 5, Ohio.

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Outdoor Lighting

STREETS — HIGHWAYS — FLOODLIGHTING

Walkers Are Difficult to See

By C. B. McCULLOUGH
Assistant Chief Engineer
State Highway Dept.
Salem, Oregon

THOUGH the pedestrian is required by law to face vehicular traffic, he is often tempted if not compelled to take the other side of the road. In built-up rural shopping centers a strict adherence to the law would many times necessitate crossing back and forth over the highway, which may be more hazardous than walking with the traffic. Because of a narrow shoulder, or certain cuts or fills protected by guard fence, the pedestrian may be forced to use one side of the road only. All of these factors operate to augment the hazard. Records in Oregon show nearly twice as many pedestrians killed while walking with the traffic as when facing it.

Visibility is another factor contributing to pedestrian accidents. Unless the pedestrian is violating the law, he can nearly always see an approaching vehicle before the driver can see him and can, therefore, step aside until the car has passed; frequently the driver's attention may be occupied with approaching vehicles so that he will be unaware of the pedestrian until he hits him.

This is especially true during the hours of darkness. The headlights are visible for long distances, especially when on the high beam. Even if the pedestrian has his back to the car (that is to say, if he is walking on the wrong side of the road), he will generally be aware of an approaching vehicle at night long before the driver can see him.

The table above, compiled in Massachusetts in 1934, illustrates the relative visibility of a pedestrian with different colored clothing and varying conditions of approaching traffic glare.

Tested Distances in Feet at Which Pedestrian Was Seen by Drivers*

(Unlighted, smooth, macadam highway)

Clothing, etc.	Distance At Which Pedestrian Was Seen When Driver Faced Illegally Raised Headlights	Distance at Which Pedestrian Was Seen When No Car Was Approaching
Dark	45 feet	195 feet
With white handkerchief	164 "	291 "
With large white area	206 "	377 "

* Pedestrian Protection, American Automobile Association.

Actual Visibility Tests

The photographs further illustrate the relative visibility of pedestrians clothed in white, grey, and dark clothing at different distances. These photographs were taken on an asphaltic macadam pavement under favorable weather conditions with headlights on high beam. During stormy weather when the windshield is covered with sleet, snow, or rain, the driver's visibility is greatly reduced. Obviously the most critical condition insofar as visibility is concerned occurs in stormy weather when vehicles are passing in opposite directions and the drivers are blinded by the glare from the headlights of oncoming cars.

If the perceptive distances given in the table are correlated with stopping distances at different speeds, it will be found that, for a pedestrian wearing *dark* clothing, a driver can observe him in time to stop when his car is traveling 35 miles per hour if the road is clear ahead; if there are approaching headlights this safe speed is reduced to 25 miles per hour. If the pedestrian is wearing *light* clothing, these safe speeds are increased to 50 miles per hour, and 35 miles per hour respectively.

All of the facts and conditions enumerated point to the need for a continued and intensive campaign of education, a campaign wherein all of the pedestrian's hazards and the factors which operate to modify them are forcefully brought to his attention. Without such a campaign of education the best of engineering will fall short of its ultimate objective.

One of the factors militating to the greatest degree against the safety of the pedestrian is pavement *glare* at night, particularly in bad weather. The following, quoted from a study of this factor by G. S. Paxson, is pertinent.

Any study of traffic accident records shows the cause of the preponderance of night-time accidents. The conditions controlling daylight operation have now changed. The driver no longer can see the hazards and prepare for them. They are upon him instantly and a split-second response to the emergency spells the difference between safety and disaster. The most important factor in safe driving is the ability to see. The driver must see a hazard in order to avoid it. During daylight hours, signs, guardrails, centerline stripes, and pavement edges are continuously impressing upon his mind the boundaries between safety and danger. Approaching vehicles or pedestrians are visible far ahead. There is time to plan a course of action. With the coming of darkness the same obstacles are present, but they are too often not seen until it is too late.

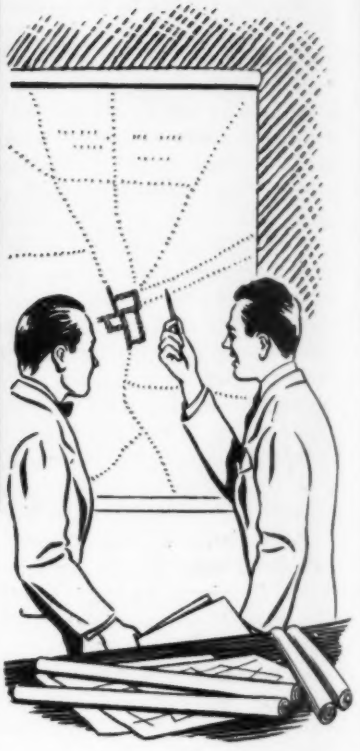
Visibility

It has become customary to recognize two ways of "seeing" things. The first is known as "discernment by surface detail." The second is known as "discernment by silhouettes." When light falls upon an object, a portion of it, depending on the characteristics of the surface, is reflected. If the reflected light which reaches the eye is of sufficient volume, the details of the object will be seen. Bright and shaded areas will contrast and colors can be recognized. This is "discernment by surface detail."

Surfaces vary greatly in their ability to reflect light. An object which reflects a small amount of light will, when placed against a background which reffects a relatively large amount of light, stand out in outline against this brighter background. Recognition in this way is "discernment by silhouette."

During daylight hours, seeing consists principally of discernment by surface detail. Sufficient light is available so that details and colors are recognized at reasonable distances. At great distances discernment by silhouette, by the contrasting of dark objects against light-colored backgrounds or vice versa

Efficient Traffic Lighting Indicates Competent Community Administration



HOLOPHANE REFRACTORS provide Traffic Safety Lighting at modest cost

The only SAFE Street by night is a *well-illuminated* street . . . And for traffic safety effective lighting is necessary . . . Holophane Refractors are being specified by more and more communities for efficiency, permanence and economy in street lighting . . . They are made to place the most light in the useful street area. Whether for a street intersection, a busy thoroughfare or a residential area there is a specially-designed Holophane Refractor to provide the proper light pattern for the purpose . . . *Plan Now* to light your community streets with Holophane Refractors. They are endorsed by and supplied through leading manufacturers of street lighting equipment.

***WRITE TODAY** for your copy of "Holophane Planned Lighting for Safe Streets." It will be sent to you without charge.*

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plays a part.

At night, discernment by silhouette is by far the more important for the driver who is dependent upon his own or the approaching vehicle's headlights. Where fixed lighting of sufficient intensity has been installed, some surface detail can be perceived, but even then the greatest reliance must be placed on silhouette.

Glare

The eye can accommodate itself to only a relatively small range of light intensity. Too high an intensity causes a dazzle which submerges the object in a blaze of light and too low an intensity results in insufficient contrast. As the light intensity varies within the visible range, the eye constantly adjusts itself. This adjustment is not an instantaneous occurrence. An appreciable time is required to permit the adjustment to be made. The automobile headlight gives the equivalent of a dimly lighted tunnel down which the eye is directed. Even though the light from the lamps may be delivered uniformly, some parts of the tunnel reflect more light back to the driver than others.

If the pavement is smooth, it will appear dark compared with the rougher surface of the shoulders. At the low angle at which the light is delivered only a small fraction of the light comes back to the driver from any surface. From the headlights of an oncoming car, however, the low angle causes a reflection of a great part of the light toward the driver. This reflection is a beam of relatively narrow width and high intensity. The eye cannot adjust itself to this intense beam and at the same time admit light enough to see outside the beam. An object in the path of the beam is perfectly silhouetted but nothing outside is seen at all. The oncoming car passes quickly but the eye readjusts itself slowly, the phenomena of vision being persistent on the retina for about 1/16th second after the stimulus is removed.

Blind Spot

There is always this fraction of a second of glare blindness following the meeting of an automobile. The driver is driving by guess, hoping that the road remains in the same condition as when he last saw it by the dim lights of his own vehicle. This inability to see is a major contributory cause of the high night accident rate.

Glare is, in a large measure, a function of the characteristics of the pavement surface. The driver need not look directly into the oncoming lights, but he must look at the pavement. If a great volume of light is being reflected from the surface toward him and small volume from his own lights back to him, he can see only the approaching beam and that is a blinding glare.

From the foregoing the necessity for designing and constructing pavement surfaces in such a way as to eliminate glare to the maximum possible degree becomes apparent. In this same Bulletin (Oregon Technical Bulletin No. 12) Paxson and Everson submit factual data indicating the relationship between various types of pavement surface and the relative visibility of a pedestrian to the motorist.

Other remedies and precautions against pedestrian accidents find an economic warrant in certain instances. Certain segments of highway may need special lighting treatments; sodium vapor units, specially designed mercury Mazda lamps, and other luminaire types have been utilized in this connection. In congested areas pedestrian overpass or underpass structures may find justification. In the case of multilane highways, diagonal intersections, and any other arrangement wherein the pedestrian is required to traverse comparatively long distances in crossing, the installation of intermediate islands or refuge bays may be warranted. Where a rural business establishment occupies a comparatively large frontage, it is often necessary to restrict egress and ingress to a few isolated points (individual driveways) in order to localize the traffic movements and thus protect the pedestrian.

All of these latter remedies, however, are more or less special, and each factor involved must be studied.

From "Designing Suburban and Rural Roadways for Pedestrian Traffic," published in Highway Traffic Conference Proceedings issued in December 1945 by The Eno Foundation for Highway Traffic Control, Inc., Saugatuck, Conn.

Two New Units Throw More Light on the Street

THE problem which is always before the street lighting engineer is how to project a larger proportion of the light produced by the lamp onto the road. Considering the fact that illumination engineers have been working on this problem for fifty years, an increase of five percent in efficiency in one year, i.e., from 66 to 71 percent, represents a sizeable accomplishment.

Such an improvement could be made only through an entirely fresh approach. The new unit designed by Westinghouse lighting engineers is the result of calculation. Based on present knowledge of pavement reflectivities and specularity under wet and dry conditions, a curve of ideal light distribution was prepared. Then, by differential equations, the reflector shape necessary to provide it was plotted. The shape thus arrived at called for a compact light source, i.e., incandescent horizontal or short-arc mercury-vapor lamp in a reflector shaped as a long, solid oval.

The reflector made as a result of these calculations is extremely effective in directing the available light to the street surface. The enclosing glass lens below (also shaped to contours determined by mathematics), controls the light that comes directly from the reflector and provides the proper amount of diffusion at every elevation. Even the light that would ordinarily

A five percent increase in efficiency has been achieved with this street lighting unit which is designed to concentrate light on the pavement

be wasted at the edge where glass and reflector join, is saved by use of auxiliary or booster shields. Translation of the design into a practical unit without sacrifice in efficiency presented problems. For example, it is necessary to make the aluminum reflector in one draw because past experience has shown that a second time through the press results in light - destroying scratches.

Light output curves from data provided by photometric tests on the first

Daunt Standards for Modern Street Lighting

DESIGN L-2360

ROUND TAPERED STEEL SHAFT AT SEWAGE TREATMENT WORKS, BOWERY BAY

IN THE CITY OF NEW YORK

Construction Features:

- ROUND CAST STEEL BASE
- ROUND TAPERED STEEL SHAFT
- MOUNTING HEIGHT TO LIGHT SOURCE 20′ 6″

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Floodlights Police New Parking Lots in Kansas City, Kans.

By ALTON H. SKINNER
City Attorney
Kansas City, Kans.

One of the new Kansas City parking lots with lighting standards with two floodlights and one luminaire on each

IT IS possible to take your car when you go shopping in downtown Kansas City, Kans., and be sure of a place to park it. There are now three fully constructed municipal parking lots, and three more yet to be paved and lighted, in the business area, accommodating altogether some 650 vehicles. All are located within a half block of the principal commercial district, and are open day and night to the public, although there is a three-hour parking limit.

The three completed lots have heavy concrete paving, adequate drainage, and rock walls at the sides. Parking spaces are set off by concrete posts. Each lot has one car entrance and one car exit. Several pedestrian walks lead to the adjoining streets. Roadways are 27½ feet wide and all traffic must move according to the directional signs. The lots are not open to heavy freight vehicles. The speed limit within the lots is five miles per hour. The three partially completed lots have broken gravel or stone over their surfaces.

Business men discourage their employees from occupying these spaces which are primarily for customers. Parking will continue on the main business streets, although it is all parallel instead of angular as formerly on certain blocks.

In an article in the November 1940 issue of THE AMERICAN CITY telling of the proposed parking lots for Kansas City, it was pointed out that "light is a good policeman." The lighting arrangements in the new lots demonstrate this conclusion as may be seen

Parked cars and lighting facilities in the recently developed lots

in the illustrations here. There are a number of standards in each lot bearing two floodlights and one luminaire each. No thefts have been reported though the general public has patronized the lots extensively after nightfall.

In view of the further demand for public parking lots, it may be necessary to double or triple deck them. The paving of the three still unfinished is our No. 1 post-war project.

Two New Units Throw More Light on the Street

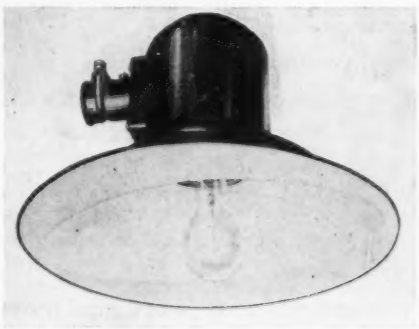
(*Continued from page* 113)

of the new units coincided almost exactly with the original calculated curves.

Better Secondary Street Lighting

The open-type street lamp, with bare bulb projecting from a plane or radial-wave reflector, has done a job of sorts for a long time in alley-ways, highways, and light-density streets. It has now been supplanted by a fixture that is superior in many ways.

The new Westinghouse reflector is of enameled porcelain and consists of a circular flat dish in which is a deep oval indentation. The lamp, instead of projecting below the plane of the reflector, is mounted up in the oval hollow, so that no light is thrown above the horizontal. Thus there will be less need to provide the unit with a special shade to keep light out of nearby bedrooms. The glaring bare bulb cannot be seen by a motorist more



Open-type street light with lamp mounted in deep oval indentation reduces glare

than 200 feet away. When he is closer than that the light becomes so high in his area of vision that the glare is not serious.

The new reflector is so shaped as to capture a high-proportion of light and to cast it on the road. About 60 percent more light falls on the actual roadway than with previous open-type lamps.

Los Angeles Police Stress Importance of Proper Lights

ACCORDING to the Los Angeles lice Department, most fatal accidents are happening during the early hours of darkness. Recognizing the necessity for proper night visibility, the Traffic Education Unit recommends the following safeguards for night drivers:

1. Have your lights checked now for aim and intensity.

2. Make sure your headlight and taillight lenses are clean, and that your stop light works.

3. Be sure to depress your headlights even if approaching drivers do not. Two blinded drivers are worse than one.

4. If you suspect that your eyes are not functioning normally in the dark, don't drive until you see your doctor.

5. Slow down—don't over-drive your headlights.

6. If you have to stop on a highway, pull off the road and use your parking lights.

Why SERVICE COSTS ARE LESS ON PARK-O-METER

Being *Completely* AUTOMATIC this meter has no external parts for public manipulation. Damage to mechanism by forcing handle on foreign obstacles *cannot happen* with this machine.

The direct ROTARY ACTION principle is simple and positive. There are no delicate adjustments. Coins move under power . . . not by tripping action of coin weight . . . from finger tip to exit, thus eliminating trigger action and sticking of gravitating coins. Shutter-protected slot keeps out moisture, grime and grit, which cause gumming of working parts. Parts are strongly built to meet street service conditions and are made of strictly quality materials.

ECONOMICAL SERVICE

The mechanism lifts out without removal of loose screws. A foreign obstacle can be flipped right out. The case need never be disassembled to reach the mechanism parts. The unit timer snaps on and off. The loosening of two screws drops out the spring barrel. Loosen one nut and the rotary coin driver comes right off. All of these operations save time and eliminate need for bringing mechanisms to and from the shop.

Unit mechanism lifts right out — hinged access door opens to horizontal position for servicing convenience.

★ ★

Every detail of this modern meter is designed for minimum service and is based on more than 12 years of continuous experience in *designing, building* and servicing parking meters in one factory.

Magee-Hale PARK-O-METER COMPANY

COMMERCE EXCHANGE BUILDING • OKLAHOMA CITY 2, OKLAHOMA

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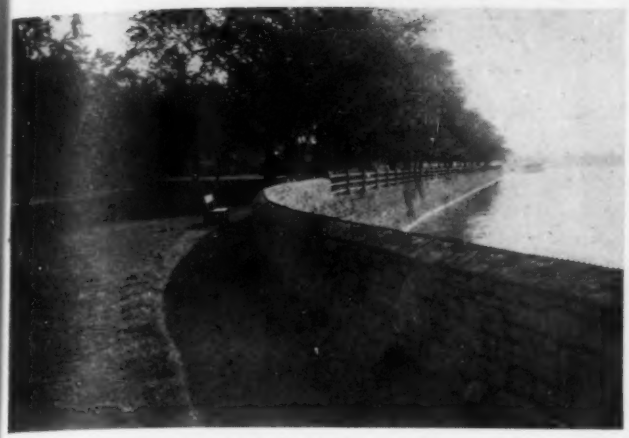


The garbage-refuse field behind the river-front wall has resulted in this attractive waterfront park

By using a Load Packer body Davenport can pack more than twice as much refuse into a truck as an open body can accommodate

Disposal Method Proves an Asset

. . . by providing parklike river-front improvements

IN MOST municipalities the disposal of refuse materials is a difficult problem to solve, but in Davenport, Iowa, the method of disposal now being used has proved to be not only a very satisfactory one but is also helping to eliminate a civic eyesore.

Davenport is a city of 66,000 population which stretches for several miles along the Mississippi River. Several years ago a group of public spirited citizens formed a Levee Commission and as a result of their activity, a seawall extending the full length of the city was built under the Commission's directions. Their plans called for a park behind the portion of the seawall near the business section of the city. To build this, the city Refuse Department filled this land for about five blocks with refuse and garbage and covered it with top soil.

A Park on "Made" Land

This river-front park is now an attractive spot which is especially popular during the summer months. The park area is beautifully landscaped with a bandshell, a ferry landing, a municipal stadium, large parking lot, and a play area for children.

Davenport plans to fill in all land behind the sea-wall, the whole length of the city, and to build other recreational areas and a riverside drive on this "made" land. The Levee Commisson, which serves without pay, has worked out a self-liquidating plan for accomplishing this job. By charging concessions to business houses located along the waterfront the work is financed without taxing the citizens.

Davenport has nine collection trucks, two Gar Wood Load-Packers, and seven open trucks of various kinds. Residential garbage collections are made weekly, the apartment house section has removals twice a week, and in the business section collections are made three times each week. Rubbish and ashes are collected once every two weeks. All containers must be 20-gallon galvanized pails. In the spring, a two-week period is set aside as clean-up week when the Refuse Department collects all refuse attendant on spring cleaning.

Operating Efficiency Is Notably Increased

The modern truck collection bodies, states Joseph C. Cummings, Davenport's Superintendent of Refuse Collection, result in major improvements in operating efficiency. The Load-Packers require a three-man crew and the open trucks have a two-man crew, that is, the driver collects along with the other crew member. Mr. Cummings reports that the Gar Wood Load-Packer collects over twice as much garbage as the open-bodied trucks can in the same amount of time and with half the number of trips to the dump site. He also reports that the Load-Packers require a minimum amount of repairs.

Refuse at present is being dumped east of the already filled area and garbage is being dumped west of the center of the town. One man with a bulldozer is in charge of the garbage dump. The bulldozer is used to distribute, compact, and cover the garbage materials. Cover material is composed of ashes and other waste materials of a similar nature.

In the winter, ash collection is so large that excess ashes are available to spread over the whole dump area. As soon as materials are dumped they are spread and compacted, then covered by the bulldozer. By the end of the day the garbage is completely covered as a result of this orderly and relatively sanitary method of disposal. Thus, what might have been a difficult situation has been so handled that it has become an asset to the city of Davenport.

Wisconsin Regulates Well-Drilling Operations

THE approval of the Wisconsin State Board of Health is now required before wells with capacity in excess of 100,000 gallons per day can be drilled in that state. The law covers new or reconstructed wells and is designed to promote the conservation of underground water supplies throughout the state.

The law provides that if the proposed withdrawal at a rate of more than 100,000 gallons per day will adversely affect or reduce the availability of water to any utility furnishing water to or for the public, the State Board of Health shall either withhold its approval or grant a limited approval imposing conditions as to location, depth, pumping capacity, rate of flow, and ultimate use so that the neighboring water supplies will not be impaired.

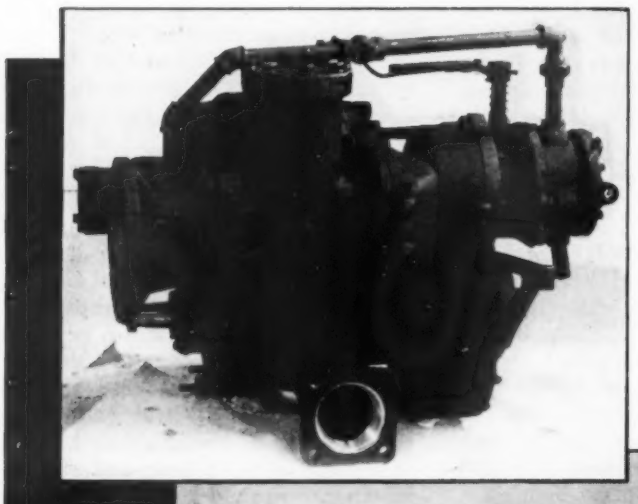
KARPARK'S LONG LIFE LINKS UP ECONOMY and DEPENDABILITY

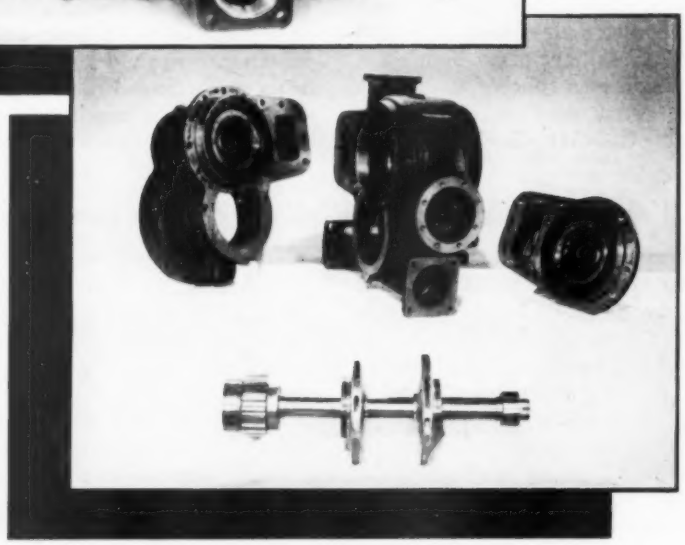
• In any equipment—truck, tractor or parking meter—it pays to have long life. The longer it lasts, the less it costs. And when it's made to last it's also made to give less trouble, which explains why the KARPARK meter justifies its selection. To give a long trouble-free life to the KARPARK, there is a sturdy pendulum escapement that delivers accurate timing under any conditions; its mainspring is made of the finest and most expensive steel; its shafts, pinions and gears are machine cut; its parts are made of stainless steel; its side plates are of corrosion-proof brass and its standard has an extra ½-inch thickness that doubles protection. These, of course, are just a few of the reasons why KARPARK is the wise choice. To know about all of its advantages write for full information.

KARPARK *Automatics*

KARPARK CORPORATION, CINCINNATI 6, OHIO

KARPARKS ARE MANUFACTURED BY THE HERSCHEDE HALL CLOCK CO.





THE SEAGRAVE

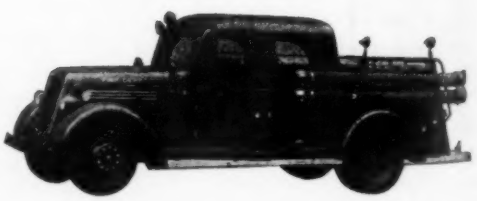
CENTRIFUGAL PUMP

Delivers more water at greater pressure . . . and does it easily and quickly

Yes, and it will maintain the pressure for hour after hour . . . never failing, always dependable. Simple in construction. Made by Seagrave for Seagrave Fire Apparatus.

THE SEAGRAVE CORPORATION
Columbus, Ohio

Bickle-Seagrave, Ltd.,
Woodstock, Ont.



SEAGRAVE

THE GREATEST NAME IN FIRE APPARATUS

Novel Vacuum Filter Development

(Continued from page 78)

thick cake continuously. The same condition of operation occurred at the time we started the parallel operation.

Conclusions

While we do not have enough data to report the comparative capacities of the two filters at this time, we can report the following operational characteristics which are evident:

1. The cord filter did not clog with imperfectly conditioned sludge, whereas the cloth filter could not produce a satisfactory filter cake after sixteen minutes of operation.

2. Sludge containing short fibers clogged the cloth filter after one hour of operation. This same material was filtered continuously with good production by the cord filter.

3. On a normal type of sludge the production rate is maintained continuously on the cord filter. The production rate fell to 50 percent of its initial production rate on the cloth filter after six hours of operation.

4. Production with the cord filter apparently is at least double that of the cloth filter.

5. The cord filter evidently produces a filter cake with a lower moisture content than that produced by the cloth filter.

6. Many materials which cannot be filtered by the cloth filter can be readily filtered by the cord filter.

7. The fact that a cord filter is available which can filter all of the materials which reach the treatment plant has given the plant operators renewed confidence. They now know that the completion of the day's work, which necessitates the removal of a definite amount of sludge, can be accomplished within an assured time limit. This materially adds to the morale of the plant workers.

We will have more to report on this operation in the future. We intend to continue to pioneer in the adoption of new developments as fast as they prove their worth.

The Annual Index of THE AMERICAN CITY for 1945 appears in the December 1945 issue.

Federal, State, and Local Public Debt

ON JUNE 30, 1945, as the second World War was drawing to a close, the combined debt of all the 155,000 governmental units—federal, state, and local—stood at $275 billion, an increase of $57 billion, or 26 percent, from June 30, 1944. Compared with the summer of 1940, when American rearmament began, the increase is $212 billion, or 336 percent.

Of the 1945 total, federal debt accounted for nearly $259 billion, state debt for $2.4 billion, and local debt for $14.2 billion.

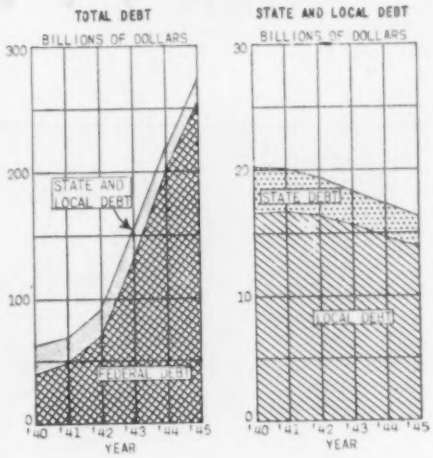
Federal Debt and War Expenditure

While federal revenue rose from $5 billion in 1940 to $46 billion in 1945, expenditure increased from $9 billion to $100 billion during the same period. War activities accounted for 50 percent of total expenditure in 1941 and for 90 percent in 1945. Revenue paid for 42 percent of total federal expenditure from 1941 through 1945, in contrast to about 30 percent in the first World War. Borrowings paid for 58 percent of federal expenditure during the second World War, resulting in the $216 billion rise in federal debt since 1940.

State and Local Debt Decreasing

The movement of state and local governmental debt has been in the opposite direction from that of the Federal Government debt, as disclosed in the accompanying chart issued last month by the Bureau of the Census. This part of the public debt decreased

GOVERNMENTAL DEBT: 1940-1945



$3.6 billion, or 18 percent since 1940. The decrease from 1944 to 1945 was 5 percent.

During the war all state governments reduced their debts, some by substantial amounts. Local governments have also been reducing their debts, but at a lower rate.

The Public Debt—Federal, State, and Local
As of June 30

	1940		1945	
Total	$63,168	billions	$275,234	billions
Federal[1] ..	42,968	"	258,682	"
State[2]	3,526	"	2,425	"
Local[2]	16,720	"	14,164	"

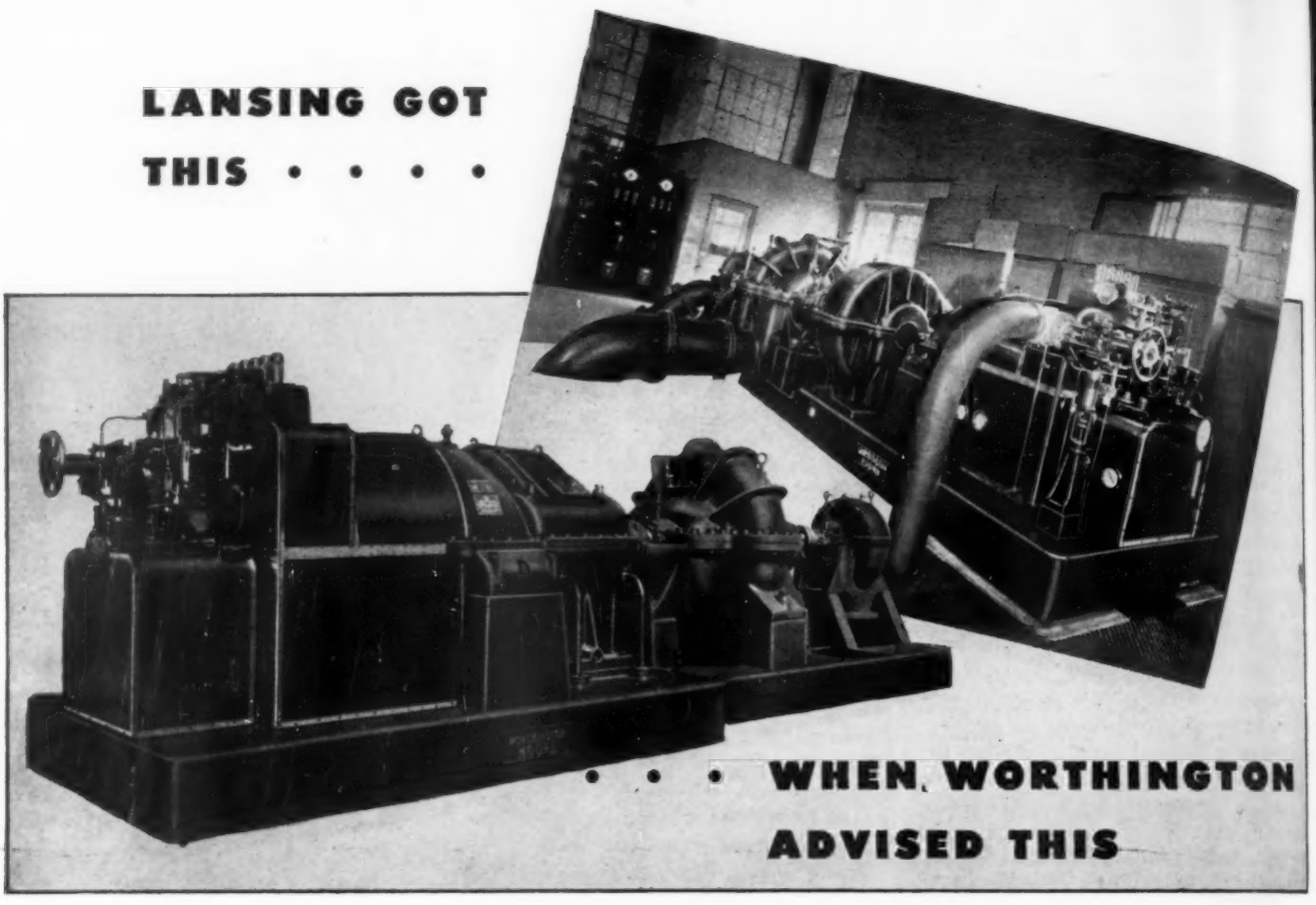
[1]Debt of the United States Government; includes general treasury obligations borrowed on behalf of federal agencies and excludes federal agency debt incurred outside of general treasury. Insofar as federal government utilities and enterprises are financed through general and special accounts, the federal debt comprises both general purposes and government enterprises.

[2]Comprise debts both for general purposes and for government enterprises.

Additional Sources of Revenues Sought by Cities

AMERICAN municipalities must seek additional sources of revenue, according to a comprehensive review of the developments in the field of municipal taxation and revenues for the last year by Francis P. Burns of New Orleans and Chairman of the Committee on Taxation and Revenues of the National Institute of Municipal Law Officers. City Attorney Burns advanced recommendations and suggestions which American cities might explore in order to supplement their real estate tax revenue, which has been the primary source of revenue for cities in the past. One of the reasons for decreased revenue, the report asserted, was that during the war period, city assessors did not revise their assessments on real estate upward so that cities received the same amount of revenue from real estate which was imposing heavier burdens upon municipal services, generally because of the great influx of war workers into industrial centers. Possible new sources of revenue for cities were suggested and included taxes on admissions and amusement devices, airports, licenses for bicycles, bowling alleys, businesses, buses, cigarettes, cirsuses, gasoline and taxicabs, and charges for fire protection, garbage collection, police service, and sewer rentals.

LANSING GOT THIS • • • •



• • • WHEN WORTHINGTON ADVISED THIS

The Result: Tops in Operating Efficiency and Economy

In 1941, the City of Lansing, Michigan installed this Worthington 20″ x 24″ — LC-3 volute centrifugal pump driven by a Worthington 5000 rpm Steam Turbine. The pump is rated at 10 to 20 MGD against 150 to 200 ft. head. After four years of service, it still rates tops with the City of Lansing, on the basis of operating efficiency and economy.

It's not surprising that it should. Laboratory tests, initiated by Worthington in 1918 on actual pump models, are backed by installation and field testing under supervision of a trained Worthington field engineer — a sure guarantee of efficient performance. You know you're on safe ground when Worthington *wins* the bid.

ADVANTAGES OF WORTHINGTON'S *COMPLETE* LINE

Another reason why more jobs go to Worthington is demonstrated in the Lansing installation . . . *completeness of line*. All of the elements making up this Worthington steam turbine driven, condensing, centrifugal waterworks pumping unit are manufactured by Worthington . . . pump, geared turbine, condenser and auxiliaries providing *undivided responsibility*. That one reason is why Worthington is first choice for so many municipal waterworks.

For specific information on Worthington LC-3 Centrifugal Pumps as installed in the City of Lansing, write for Bulletin W-312-B9A. It proves that *there's more worth in Worthington. Worthington Pump and Machinery Corporation, Harrison, N. J.*

MORE JOBS GO TO WORTHINGTON

The complete line . . . the top engineering

Centrifugal Pumps
Diesel & Gas & Sewage Engines
Dual-Fuel Engines
Turbines & Turbine-Generators
Gas Engine-Compressors
Stationary Compressors
Water Softening, Filtering Equipment
Vertical Turbine Pumps
Water Meters
Power Transmission Equipment
Portable Compressors & Air Tools

WORTHINGTON

2-WS-5

Zoning and Planning Notes

Edited by FRANK B. WILLIAMS
Author of *The Law of City Planning and Zoning*

Sales of Beer and Liquor—Non-Conforming Use—Change of Use

CONNECTICUT—*State* v. *Rowland*, Supreme Court, July 1944, reported in 38 A. 2d 785.

One Chatlos owned and operated a restaurant in the City of Bridgeport, and in it sold beer under a permit for the sale of alcoholic liquors limited to beer. Prior to August 1942, the premises were in a zoning district in which the sale of liquor under a proper permit was not prohibited. On that date this area was made a district in which liquor could not be sold under a restaurant permit. Thereafter, therefore, the use of Chatlos's property as a restaurant selling alcoholic liquors became a non-conforming use, which could legally continue in the district.

On July 16, 1943, the plaintiff wished to secure for use in connection with his restaurant, in place of the permit for the sale of beer only, a permit for the sale of any alcoholic beverage. To do this the law required him to obtain a certificate from the secretary of the Zoning Commission that the sale of alcoholic liquor at the location in question was not prohibited by the ordinances or by-laws of the city. Such a certificate the zoning official refused to give, and this is an action to compel him to do so.

The court in this case decides that the zoning official must give the certificate. A change from the sale of beer to the sale of any alcoholic beverage is only a change of use of the premises, not a structural change or enlargement. Such a change of a non-conforming use is permitted by the zoning ordinance of the city.

Land Owned by City—Alienability

KENTUCKY — *Southeastern Greyhound Lines, Inc.* v. *City of Lexington.* Court of Appeals, March 6, 1945, reported in 186 S. W. 2d, page 201.

In the year 1919, the City of Lexington obtained authority by vote of its electorate to issue bonds in the amount of $500,000 with which to purchase sites and thereon to erect a city hall and city auditorium. The land for both buildings was condemned and purchased by the city. The city hall was constructed but the city auditorium was never built because the entire amount realized from the sale of the bonds was used for the city hall. The city has never been able to obtain authority to raise the money for the construction of the auditorium, the property acquired for the auditorium has remained idle for twenty years, and all hope of ever constructing it is abandoned.

Recently the property was sold to the Southeastern Greyhound Lines, under an ordinance providing that the proceeds of the sale should be used to pay the bonds issued to acquire the real estate bought for the auditorium. The Greyhound stands ready to complete the purchase and pay the purchase price if the court holds that the sale was valid; and the court in this action so holds.

All property held by a city absolutely, without limitation or restriction as to its alienation, may be disposed of by the city at any time before it is dedicated to a public use. In other words, a city, unrestrained by statute, charter, or state constitution, has the right to sell or dispose of property, real or personal, to which it has the absolute title and which is not affected by a public trust, in substantially the same manner as an individual. This power is a power inherent in all corporations, public or private.

The demand for a municipal auditorium in the city of Lexington has ceased; and there is little likelihood that the voters of the city will permit it to be built. The property was acquired by the city in good faith for a purpose which cannot be consummated. The property has never been dedicated to a public purpose, and the purpose for which it was acquired has now been abandoned. The court is therefore of the opinion that the city has the authority to sell the property in question and convey an absolute, or fee simple, title to it.

Building Permit—Change of Ownership

NEW YORK—*Neiburger* v. *Lewis*, Building Commissioner, Supreme Court, June 22, 1945, reported in 57 N. Y. S. 2d, page 542.

In 1939, the Zoning Board of Appeals of the City of Long Beach, authorized the Stock Management Corporation, the owner at that time of the premises in question, to use them as a rooming house. This permission has never been revoked. The Stock Corporation never exercised this permission, but later, by a series of conveyances, the premises became the property of Eva Checknay who applies for a certificate.

It is contended by the Building Commissioner that the right created by the resolution granting the above permission was not a vested right, but could be used solely by the then owner of the premises, the Stock Company, to whom it was originally issued, and that the failure of that company or anyone claiming under it to apply for and secure a building permit under the resolution resulted in the loss of these rights, and the Building Commissioner had no right to issue a building permit to Mrs. Checknay under that resolution.

The Court holds, however, that the right was not a personal one, in favor only of the then owner of the premises, but attached to the premises and was available to any subsequent owner until revoked. Mrs. Checknay is therefore entitled to her permit.

Zoning Regulation—Estoppel—Laches

NEW YOTK—*S. B. Garage Corporation* v. *Murdock & others, constituting the Board of Standards and Appeals of the City of New York.* Supreme Court, April 27, 1945, reported in 55 N. Y. S. 2d, page 456.

In 1921, a permit and certificate of occupancy were issued to the Garage Corporation for a garage on a street between two intersecting streets, there being a public school on this street between these two intersections. Subsequently the Board of Standards and Appeals revoked the permit and the certificate on the ground that they were issued contrary to the terms of the zoning resolution. This is a proceeding to review this determination.

The garage has been in continuous use as a public garage for more than twenty years. In the opinion of this court the permit and the certificate of occupancy were issued in direct contravention of the above-mentioned provision of the Zoning Resolution, and were clearly illegal. And no building permit issued by an administrative official could condone or afford immunity for a violation of law.

It is claimed that there are no violations of record, that real estate taxes upon the premises had been received by the city for eighteen years, and that the fire department of the city had issued gasoline and storage garage permits for the entire period since the construction of the building.

But the promulgation of zoning ordinances constitutes a government function; and the municipality cannot be estopped by its failure to act or wrong action of its officials, nor can laches be invoked. The corporation claims that by reason of the consents obtained and the lapse of time it has vested rights. The difficulty, however, is that it never had any rights to vest.

The apparent harshness of this result may, however, be attenuated in two ways—the doors to the school entrance in question could be closed (leaving other entrance open) or on application a zoning variance could be issued by the Board of Standards and Appeals.

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COPPER PIPE AND FITTINGS

- *Rust Proof*
- *Vibration Proof*
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- *Leak Proof*

● When your plans call for pipe and fittings on new work, remodeling city projects or for water service lines, investigate STREAMLINE Copper Pipe and Solder Fittings before you decide.

STREAMLINE compares very favorably in cost with ferrous pipe, yet, with the exception of abnormal soil and water conditions, it never has to be replaced due to rust or clogging. The pipe joint is actually the strongest point in the line—constant vibration, resettlement of the fill, etc. has no effect upon it.

STREAMLINE Service Pipe (Type K) is the original copper service pipe, and the first to be produced in America for water service work. It is the most uniformly soft and pliable pipe possible to obtain—it is kept that way through the use of the best copper obtainable for the purpose and through strict laboratory control through every phase of its manufacture.

STREAMLINE Fittings and Type K Copper Pipe are the ideal materials for water works use; for many applications in filtration plants; in aeration lines and in heating coils using the sludge digestion system in sewage disposal plants—and for all general plumbing and heating purposes.

Water works officials who are responsible for the return on a very heavy capital investment have in STREAMLINE fittings and copper pipe, one of the most effective and low cost forms of insurance that they can adopt. It is the ideal material for water service work. Include them in your specifications for post-war planning.

TYPE M PIPE IS MOST GENERALLY USED FOR CONSTRUCTION PURPOSES. TYPE K FOR WATER SERVICE WORK.

COPPER PIPE PLUS BRONZE SOLDER FITTINGS PRODUCE THE MOST PRACTICAL PIPE-JOINT

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

How Does Your Population Grow?

	1944	1940	% Increase
Charleston, S. C., Area	190,422	121,105	57.2
Detroit-Willow Run Area	2,670,596	2,458,139	8.6
Hampton Roads Area	656,066	343,423	91.0
Los Angeles Area	3,434,737	2,916,403	17.8
Mobile Area	238,281	141,974	67.8
Muskegon Area	108,079	94,501	14.4
Portland-Vancouver Area	669,617	501,275	33.6
Puget Sound Area	1,070,664	820,202	30.5
San Diego Area	609,171	289,348	110.5
San Francisco Bay Area	2,044,613	1,461,804	39.9

A NUMBER of special censuses have been conducted by the Bureau of the Census since the decennial census in 1940 at the expense of the local unit involved. These have been for the most part in California. In addition, a sample census entitled "Total Population of Ten Congested Areas: 1944" was undertaken by the Bureau. The results of the latter survey are summarized above.

Here are the figures for censuses made in 1945 of cities over 25,000 population, all of them in California:

	1945	1940
San Francisco	827,400	634,536
Beverly Hills	28,217	26,823
Alameda	89,906	36,256
Coronado	25,382	6,932
Fresno	63,672	60,685

The figures for cities over 10,000 population for the year 1944 are as follows:

	1945	1940
Adrian, Mich.	15,825	14,230
Albany, Calif.	14,873	11,493
Berkeley, Calif.	100,024	85,547
Burlingame, Calif.	17,395	15,940
Burlington, N. C.	21,830	12,198
Chula Vista, Calif.	11,081	5,138
Compton, Calif.	23,460	16,198
Culver City, Calif.	12,360	8,976
Inglewood, Calif.	37,912	30,114
Inkster, Mich.	12,708	7,044
Lynwood, Calif.	15,276	10,982
Montebello, Calif.	13,144	8,016
Napa, Calif.	12,987	7,740
National City, Calif.	17,654	10,344
Oceanside, Calif.	10,698	4,651
Oxnard, Calif.	18,979	8,519
Palo Alto, Calif.	18,261	16,774
Pittsburgh, Calif.	10,841	9,520
Santa Ana, Calif.	38,015	31,921
San Buenaventura, Calif.	15,710	13,264
South San Francisco, Calif.	11,406	6,629
San Leandro, Calif.	22,903	14,601
San Luis Obispo, Calif.	11,657	8,881
Santa Maria, Calif.	10,094	8,522
San Mateo, Calif.	26,805	19,403
San Rafael, Calif.	11,389	8,573
Santa Cruz, Calif.	17,690	16,896
Stockton, Calif.	58,865	54,714
Rendondo Beach, Calif.	17,036	13,092
Turtle Creek, Penn.	11,362	9,805

Taxing Non-Residents

THE idea of taxing the incomes of persons who make their living in large cities but choose to live in suburbs is occupying Milwaukee city officials. Information on the subject is being gathered for possible future use, as the exodus of employees of Milwaukee firms is increasing rapidly. This city has numerous suburbs—some of them separated from Milwaukee by a black line in the middle of a street. In one instance the citizens of a suburb living on one side of a street get their water from the Milwaukee water works, while those on the other side of the street get theirs from deep wells sunk by the suburb. Other facilities, such as electric service, bus and street car and other services for the suburbanites come from Milwaukee utilities, including sewage disposal at very low rates, which would not be possible were the community located some miles from Milwaukee.

Of course, there are two sides to the question of taxing suburban residents who make their living in the large city. Shortly after the needs of the method of taxing non-residents appeared in Milwaukee newspapers, the *Vox Pop* columns of these papers began to get outpourings of opinions on the subject. What action the city will take remains to be seen.

JOHN E. HUBEL

Public Works as Viewed by CED

(From the November 1945 policy statement of the Committee for Economic Development, "Toward More Production, More Jobs, and More Freedom.")*

PUBLIC WORKS, including conservation of natural resources, are a well-recognized responsibility at all levels of government. They should be projects of public usefulness which improve the standard of living or add to the productive efficiency of the economy but which cannot be adequately carried out under the sole stimulus of the profit motive. . . .

"Public works cannot be relied upon, either solely or even mainly, to maintain high productive employment. The volume of useful and well-conceived projects that is also postponable is far too limited, the scope for prompt expansion and prompt contraction is far too meager, to permit public works to be used as an adequate or feasible means of absorbing mass unemployment or stabilizing changes in employment throughout the economy.

"On the other hand, there is much evidence that public works, especially when backed up by a positive program of aids for private housing construction, can be used effectively to approximate a more realistic objective—the stabilization of the construction industry. They have not been so used in the past. On the contrary, public works, governed by the financial convenience of federal, state, and local governments and by false conceptions of what government could "afford," have generally added to the cyclical gyrations of the construction industry. They have been started when business was booming and government revenues were high, deferred when business was depressed and revenues were low. If public works are to make their potential contribution toward the stabilization of construction, federal, state, and local authorities must develop a program of useful, postponable public works (both light and heavy) to the blueprint stage. They must also devise means whereby such works can be postponed when private activity is strong and initiated selectively on short notice in case private economic activity slackens.

"As far as feasible, public works should be carried out by private companies selected for the purpose through competitive bidding, so that these undertakings will strengthen rather than infringe upon the free-enterprise structure of our economy."

* Copies of this 40-page brochure may be obtained from local chairmen of the Committee for Economic Development or from the national office at 255 Madison Avenue, New York 17, N. Y.

Time for Action in Housing

We have reached the time for action in housing. In Washington the prime need is for legislation which will extend and strengthen existing housing programs, enact new programs and provide for the unified approach on the part of the federal government which is needed to tackle effectively the housing emergency. In the cities, where houses are built and where the ultimate responsibility for local housing programs lies, the prime need is to measure housing needs, map out plans and objectives, and mobilize community forces on the problem on a broad front embracing labor, industry, the local government and the public at large which lives in houses.

JOHN B. BLANDFORD, JR.
Administrator
National Housing Agency

To Remove Snow and Ice—They "PASS the SALT"

At 2:48 p.m. snow covers Washington St., Boston, from curb to curb as Sterling Rock Salt is applied.

At approximately 3 p.m.—less than 12 minutes later —snow is mealy slush that will quickly vanish.

SNOW-CLOGGED highways and ice-glazed streets this winter offer public officials two choices:

"Treating" the snow or ice with abrasives . . . consuming much time, labor and equipment, and accomplishing only temporary results.

OR—*quick and effective removal of such wintry hazards . . . with Sterling Rock Salt!*

Spread when a storm strikes, Sterling Rock Salt prevents sleet and snow from bonding . . . keeps it mealy and easily whipped off to the sides by traffic action.

When snow is packed and ice is formed . . . Sterling "Auger-Action" Rock Salt bores through the largest masses . . . forms a brine which loosens the bond with the pavement . . . the shattered chunks broken by passing traffic are easily removed . . . the remaining brine will prevent any further formation of ice.

★ Assures quick removal
★ Saves labor and equipment
★ Makes driving safe

Sterling
Auger-Action
ROCK SALT

Get the full facts in new FREE booklet!

INTERNATIONAL SALT CO., INC.
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To do an efficient *removal* job with utmost economy . . . just fill in this coupon and mail it today for your *free* copy of "WHY, WHEN AND HOW TO APPLY STERLING 'AUGER-ACTION' ROCK SALT."

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City_____ State_____

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City Manager Appointments

E. A. Ingham, Alhambra, Calif.

MAJOR JESSE V. BOYLES has been appointed city manager of Bartow, Fla., to replace H. Pierce Ford who has resigned effective December 1 to return to Tallahassee to enter private business.

EDGAR W. BLOM, one-time assistant city manager of Ames, Iowa, and more recently in the armed forces, has been appointed city manager of Redwood City, California to replace Robert W. Mead.

M. L. CARRIGER has replaced E. C. Alexander as city manager of Elizabethtown, Tenn.

COMMANDER H. H. CROW,, who has been in the Navy for the past four years, has returned to the city managership of Benton Harbor, Mich., replacing John F. Null who is entering private business.

MAJOR W. P. KANTO, who has been on leave for three years in the armed forces, has returned to his post at Norton, Va.

H. A. HUNTER, assistant city manager of Dallas since July 1, will become city manager of Lubbock, Texas, on January 1, replacing M. R. Smith, Jr., who has resigned to enter private engineering.

E. E. HUNTER has replaced John W. Harkins as city manager of Goose Creek, Texas.

E. A. INGHAM, city manager of Coronado from 1928 to 1937, and Glendale since 1937, has been appointed city manager of Alhambra, Calif., effective November 1.

ERNEST G. LITTLETON, director of law, Portsmouth, Ohio, has been appointed city manager of that ctiy.

MAJOR WILLIAM T. MCILWAIN, JR., former manager of Ft. Pierce, Fla., February 1, 1939, to July 1941, when he entered the armed forces, has accepted a position as city manager of Coral Gables, Fla., effective November 1.

COL. HAROLD J. MARTIN, former engigineer of the Water and Power Dept. of Los Angeles, has been appointed city manager of Ontario, Calif., replacing Neal D. Smith who becomes city engineer of San Diego, Calif.

LAWRENCE E. OLSON, ex mayor of Glendale and more recently Washington Representative of the League of California Cities, has been appointed city manager of San Leandro, Calif., replacing Ray L. Billings who is retiring.

GEORGE C. SHANNON, Lieutenant in the Navy and one-time with the City of Dallas, Texas, has been appointed first city manager of Lynwood, Calif.

V. HUBERT SMITH has succeeded C. A. Bentley as city manager of McAlester, Okla.

F. S. SPAULDING, city engineer, has been appointed city manager of Bristol, Va. He replaces P. A. Goodwyn who died on October 21.

ANDREW C. SWAN, deputy collector of International Revenue, has succeeded Miss Beulah Gillen as manager of Blaine, Me.

Karl H. Kugel, Sandusky, Ohio

Ernest G. Littleton, Portsmouth, Ohio

KARL H. KUGEL, member of the staff of the Ohio Department of Taxation, was appointed city manager of Sandusky, Ohio, on October 1. He succeeds A. J. Lauber.

MRS. AMELIA J. CULLINS has succeeded Paul Fodale as town manager of Bridgewater, Me.

D. H. GRAHAM has been appointed borough manager of West View, Pa.

H. F. KNOELL, who has been on leave to the army, has returned to his post as city manager of Orange, Va. Fred M. Grover was acting while Mr. Knoell was away.

HENRY W. KNOWLES has succeeded D. W. Stackpole as town manager of Mars Hill, Me.

ERNEST E. LOTHROP, city manager of Brattleboro, Vermont, has been appointed town and village manager of Middlebury, Vt., effective December 10.

J. H. PHILPOTT, former manager of Ft. Lauderdale, Fla., from 1939 to 1941, has been reappointed succeeding A. J. Merrill.

V. R. SMITHAM became full manager of Dallas, Texas, effective December 5 when Col. James W. Aston, who has been on leave to the armed forces, resigned to accept a post in private business.

R. O. WHITCHURCH, JR., has been appointed city manager of Nowatak, Okla., to succeed Lee Horn who resigned to enter the insurance business.

MAJOR W. K. WILLMAN, who has been on leave for the past three years to the armed forces, has resumed his old post as city manager of Mt. Pleasant, Mich. He replaces W. Allen Clark who has been acting manager.

CLARENCE E. RIDLEY
Director
International City Managers' Association, Chicago, Ill.

George G. Shannon, Lynwood, Calif.

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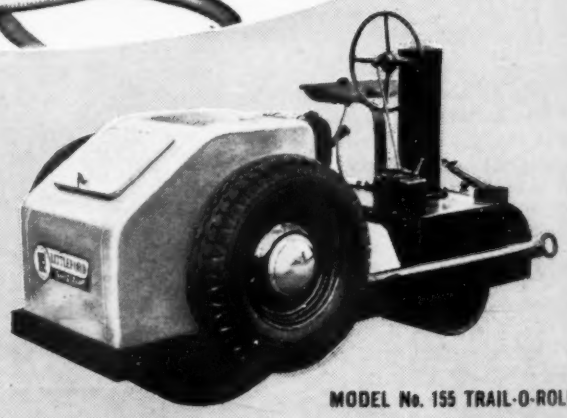
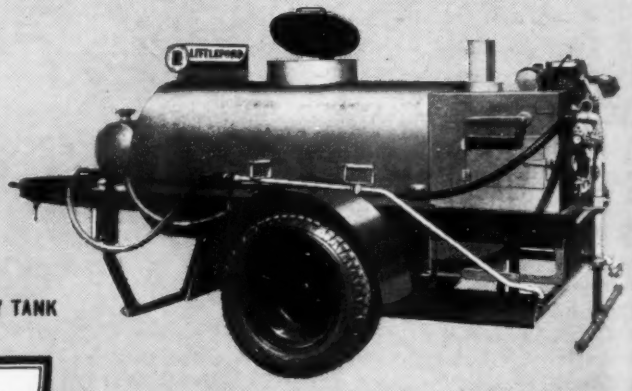


MODEL No. 155 TRAIL-O-ROLLER



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A Sanitary District Looks Foward

(*Continued from page 103*)

102,000. In recognition of these trends, the District feels that the Army Base plant should be adequate for the next twenty to twenty-five peacetime years. Its design is such that it can absorb a relatively large overload.

The Lambert's Point Plant provides service for a population of 140,000. The present population within that portion of the District now runs as high as 161,000. Here again, however, it is unlikely that initial service will be provided for the entire area, but if it were the plant could still handle the indicated 15 percent overload. Taking into account some reduction in military activities, the District feels that the proposed plant will suffice for at least fifteen to twenty years.

The area south and west of Portsmouth will be delivered to the trunk sewers of the city of Portsmouth for disposal at the proposed Pinner's Point plant. Definite plans have not yet been established for this plant, however, it probably will provide service for 40,000 persons.

Construction Costs

Future construction projects for the District fall into three groups; the first group comprises facilities necessary to extend service to substantially all of the highly developed and sewered sections with an estimated cost of construction running to $4,813,000; a second group may be designated as "desirable for early construction" and includes a list of improvements totaling $534,000 in cost. This makes the total construction cost of the improvements run to $5,347,000. To cover this, the District plans a $6,500,000 bond issue, giving a margin to cover costs of real estate, right of way, interest during construction, engineering, and administrative and legal fees.

The District's plans are based on engineering studies by Greeley and Hansen, Chicago consultants, and Aldrich and Buck, New York City, and represent active study and reports by R. W. Digges, Manager of the Hampton Roads Sanitation District Commission. Greeley and Hansen are preparing designs and will supervise construction of the North Shore and Portsmouth improvements, while Aldrich and Buck have the city of Norfolk and connections.

Collective Bargaining in the Local Public Service

(*Continued from page 90*)

vails in layoffs, rehiring, and transfers. The seniority of veterans and war workers is strongly safeguarded in nearly all the contracts. They furthermore contain provisions for vacations with pay (one week after one year's service), sick leave (ten days annually), double time for Sunday and other holiday work, for creation of safety regulations and changes in civil service retirement plans. Finally, like their prototypes in private industry, the agreements usually run for a year or two, and can be modified or abrogated by either of the signatories upon thirty- to sixty-days written notices.

There is no rule or rote, no magic formula for collective bargaining in the government, or anywhere else. Collective bargaining is an immensely flexible instrument that can be changed to meet changing needs. Certain techniques which the unions find useful, or even indispensable, in private industry cannot be as expeditiously applied to the public service. The closed shop, for example, originated in the desire to prevent the private employer from introducing non-unionists into the plant to undermine union standards. However, with the government employer, these standards—whether set up by statute or by collective bargaining or by a blend of both—are public, uniform, and fixed over a certain span of time. Under such circumstances, the closed shop—viewed as a method for protecting union standards—has far less reason to exist.

However, as government functions multiply, and ramify out from the function of policing toward the administrative and proprietary, the same underlying forces that sponsored collective bargaining in private enterprise will become more and more manifest in public enterprise. The similarity, even the identity, between collective bargaining agreements with private industry and those with the government would seem to confirm this trend.

To Conserve Small Town Investments in Servicemen

THE smaller communities of Texas have their futures tied up in the returning veterans and war workers, Dr. Harry E. Moore, professor of sociology at the University of Texas, believes.

"The small towns that are able to hold these men and women will prosper," he said. But, he warned:

"If these persons leave they will carry with them the new skills and ideas they have acquired while away, and will spend the productive years of their lives adding to the prosperity of the towns in which they do stay.

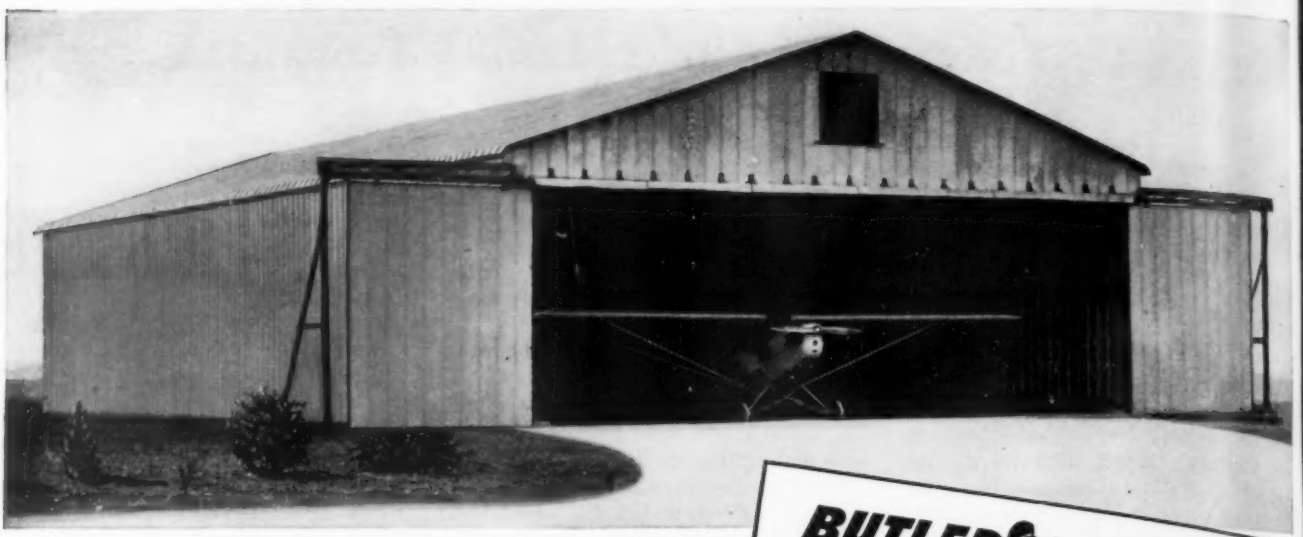
"They will stay in their home towns only if they find there the economic security and the social satisfactions they are seeking.

"These men represent a tremendous investment on the part of the towns in which they grew up. Statisticians figure that a family with an income of $2,500 per year spends about $10,000 for each child reaching eighteen years of age. Roughly, the number of men supplied the armed services is about 10 percent of the total population.

"Cutting the cost of rearing a child to half the figure estimated by the statisticians, this still means that a town of 10,000 population has invested in its servicemen not less than $5,000,000.

"This figure does not measure indirect costs represented by taxation and leaves out of account entirely the more important but not calculable human worth of these men. Even so, $5,000,000 is pretty high stakes for a town of 10,000 to gamble for."

Dr. Moore and his wife, Dr. Bernice Milburn Moore, family consultant for the Hogg Foundation for Mental Hygiene at the University of Texas, have recently written two pamphlets pointing out the importance of returning servicemen and war workers to their home towns. These pamphlet, entitled "Through Their Own Front Door" and "What the Community Can Do Now for Its Servicewives" are being distributed through the USO centers.



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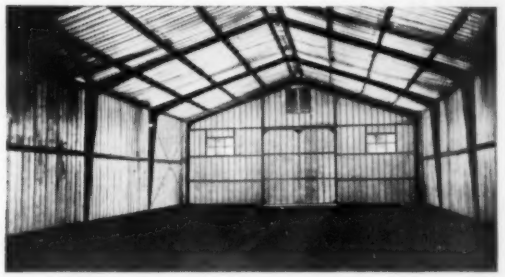

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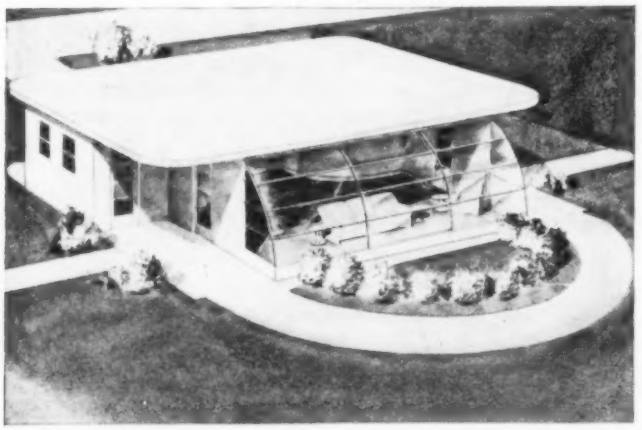

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Conventions—When and Where

January 16-18—New York, N. Y.
AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual Meeting (Hotel Commodore). Sec., William N. Carey, 33 W. 39th St., New York 18, N. Y.

Jan. 18—New York, N. Y.
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Annual Meeting (Hotel Pennsylvania). Sec.-Treas., A. S. Bedell, c/o State Department of Health, Albany, N. Y.

Jan. 21-23—Portland, Ore.
LEAGUE OF OREGON MUNICIPALITIES. Annual Convention (Hotel Multnomah). Exec. Sec., Herman Kehrli, Bureau of Municipal Research, University of Oregon, Eugene, Ore.

Jan. 21-24—Lafayette, Ind.
PURDUE ROAD SCHOOL. Annual Road School (Memorial Union Bldg.—Purdue University). R. B. Wiley, School of Civil Engineering, Purdue University, Lafayette, Ind.

Jan. 25-28—Oklahoma City, Okla.
HIGHWAY RESEARCH BOARD OF THE NATIONAL RESEARCH COUNCIL. Annual Meeting. Dir., Roy W. Crum, 2101 Constitution Ave., Washington, D. C.

Jan. 28-Feb. 1—Atlantic City, N. J.
NATIONAL RECREATION CONGRESS. Annual Meeting (Hotel Claridge). Pres., Howard Braucher, 315 Fourth Ave., New York 10, N. Y.

Feb. 11-13—College Station, Texas
TEXAS WATER WORKS & SEWAGE SHORT SCHOOL. Annual Meeting (Texas A & M College). Sec., V. M. Ehler, Austin, Texas.

Feb. 16-17—Cleveland, Ohio
AMERICAN INSTITUTE OF PLANNERS. Annual Meeting. Exec. Sec., Draveaux Bender, Massachusetts Institute of Technology, 77 Massachusetts, Ave., Cambridge 39, Mass.

***Feb. 21-23—Chicago, Ill.**
COMMUNITY CHESTS AND COUNCILS, INC. Annual Meeting (Hotel Stevens). Exec. Dir., Ralph H. Blanchard, 155 E. 44th St., New York 17, N. Y.

Feb. 26-28—Grand Rapids, Mich.
CONFERENCE ON HIGHWAY ENGINEERING. Annual Meeting (Hotel Pantlind). Sec., R. L. Morrison, University of Michigan, Ann Arbor, Mich.

Mar. 14-15—Minneapolis, Minn.
AMERICAN WATER WORKS ASSOCIATION—MINNESOTA SECTION. Annual Conference (Hotel Radisson). Sec.-Treas., R. M. Finch, Wallace & Tiernan Co., Inc., 416 Flour Exchange, Minneapolis, Minn.

Mar. 14-16—New York, N. Y.
NATIONAL PUBLIC HOUSING CONFERENCE. Annual Meeting (Hotel New Yorker). Exec. Vice-Pres., Lee F. Johnson, 1015 Fifteenth St., NW, Washington 5, D. C.

***Mar. 20-22—Trenton, N. J.**
NEW JERSEY SEWAGE WORKS ASSOCIATION. Annual Meeting (Hotel Stacey-Trent). Sec.-Treas., Edward P. Molitor, Chatham, N. J.

Mar. 28-29—Elmira, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Spring Meeting (Hotel Mark Twain). Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York 20, N. Y.

***Apr. 1-3—Chattanooga, Tenn.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Annual Spring Meeting (Hotel Patten and Red House). Exec. Asst., Ernest Hartford, 29 W. 39th St., New York 18, N. Y.

Apr. 3-5—Chicago, Ill.
MIDWEST POWER CONFERENCE. Annual Conference (Palmer House). Dir., Stanton E. Winston, Illinois Institute of Technology, Chicago, Ill.

***Apr. 3-5—Atlantic City, N. J.**
NEW JERSEY MOSQUITO EXTERMINATION ASSOCIATION. Annual Meeting (Hotel Ambassador). Sec., Thomas D. Mulhern, New Brunswick, N. J.

Apr. 8-10—Niagara Falls, Ont., Canada
AMERICAN WATER WORKS ASSOCIATION—CANADIAN SECTION. Annual Convention (General Brock Hotel). Sec., Dr. A. E. Berry, c/o Ontario Dept. of Health, Parliament Bldg., Toronto, Ont., Canada.

Apr. 12-13—Butte, Mont.
AMERICAN WATER WORKS ASSOCIATION—MONTANA SECTION. Annual Meeting (Hotel Finlen). Sec.-Treas., Herbert B. Foote, Division of Sanitary Engineering, State Board of Health, Helena, Mont.

Apr. 15-16—Fayetteville, Ark.
ARKANSAS WATER AND SEWAGE WORKS CONFERENCE. Annual Conference (Engineering Bldg.—University of Arkansas). Sec., Harrison Hale, University of Arkansas, Fayetteville, Ark.

***Apr. 22—Chicago, Ill.**
AMERICAN FEDERATION OF STATE, COUNTY, AND MUNICIPAL EMPLOYEES. Annual Convention (Hotel Morrison). Gen. Pres., Arnold S. Zander, Federation Bldg., Madison 1, Wis.

Apr. 22-24—Dallas, Texas
AMERICAN WATER WORKS ASSOCIATION—Citizens Conference on Planning. Exec. Sec., Miss Harlean James, 901 Union Trust Bldg., Washington, D. C.

***Apr. 29-30—Augusta, Ga.**
ASSOCIATION OF COUNTY COMMISSIONERS OF GEORGIA. Annual Meeting (Hotel Bon Air). Exec. Sec., Miss Betty Peeler, P. O. Box 57, Decatur, Ill.

***Apr. 30—May 2 Atlantic City, N. J.**
UNITED STATES CHAMBER OF COMMERCE. Annual Meeting. Gen. Mgr. Ralph Bradford, 1615 H St., N.W. Washington, D. C.

May 6-8—New York, N. Y.
AMERICAN SOCIETY OF PLANNING OFFICIALS. Annual Meeting (Hotel New Yorker). Exec. Dir., Walter H. Blucher, 1313 E. 60th St., Chicago 37, Ill.

May 6-10—St. Louis, Mo.
AMERICAN WATER WORKS ASSOCIATION. Annual Convention. Sec., Harry E. Jordan, 500 Fifth Ave., New York 18, N. Y.

***May 8-10—Miami, Fla.**
AMERICAN INSTITUTE OF ARCHITECTS. Annual Convention. Exec. Sec., E. C. Kemper, 1741 New York Ave., Washington, D. C.

May 19-25—Buffalo, N. Y.
NATIONAL CONFERENCE ON SOCIAL WORK. Annual Convention (Memorial Auditorium). Gen. Sec., Howard R. Knight, 82 N. High St., Columbus, Ohio.

***June 17-19—Cincinnati, Ohio**
NATIONAL ASSOCIATION OF COUNTY OFFICIALS. Annual Meeting (Hotel Netherlands-Plaza). Sec.-Treas., George F. Simmons, Ogden, Utah.

***June 3-6—Boston, Mass.**
NATIONAL FIRE PROTECTION ASSOCIATION. Annual Meeting (Hotel Statler). Managing Dir., Percy Bugbee, 60 Batterymarch St., Boston, Mass.

***June 5-7—Rochester, N. Y.**
NEW YORK STATE CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS. Annual Meeting (Hotel Seneca). Exec. Sec., William P. Capes, 6 Elk St., Albany, N. Y.

***June 13-14—Lafayette, Ind.**
CENTRAL STATES SEWAGE WORKS ASSOCIATION. Annual Meeting (Purdue University). Sec.-Treas., J. C. Mackin, Route 4, Madison, Wis.

***June 23-29—Chapel Hill, N. C.**
SOUTHEASTERN INSTITUTE FOR COMMERCIAL ORGANIZATION EXECUTIVES. Annual Meeting. (Campus of University of North Carolina). Mgr., L. P. Dickie, Chamber of Commerce Bldg., Atlanta, Ga.

* First appearance on this page.

New Foundation to Promote Better Communities

THOMAS HEWES, Hartford and Washington attorney, former Assistant Secretary of the U. S. Treasury and author of "Decentralize for Libery," and Robert West Howard, former editor-in-chief of *Pathfinder Magazine*, have announced the organization of The Lyme Foundation, Incorporated, a non-profit institution chartered in the state of Connecticut for the purpose of "educating the American individual in the social, economic and political principles of decentralized living."

From a nine-point statement of purposes and an eleven-point program of action issued by the Foundation in its Bulletin No. 1, the following paragraphs are quoted as of special interest to readers of THE AMERICAN CITY:

"Seek to strengthen community living across all America, and thus set an example of peace and democracy for the rest of the world, by pointing out ways and means for the economic, architectural and spiritual rehabilitation of our 16,000 towns and villages, the end sought being that industry, labor, professions, trades and agriculture find mutual benefits and fuller opportunities for individual freedom and collective security in such a technologically modernized environment."

"Develop, through a research division, an information service on modern architectural concepts of town and industrial planning, on semi-rural home building, community centers and the like, on democratic business principles and cooperative industry, as well as on the mores, geography, history, educational and industrial facilities of all sections of the United States and Alaska. This service will be available to town and village governments, to industries and to individuals."

The name "Lyme" was chosen to designate the Foundation for two reasons:

(1) It is planned to erect permanent national headquarters for the Foundation in the town of Lyme, near the mouth of the Connecticut River. (2) The name "Lyme" is Old English, derived from the Welsh "llif" meaning "flood" or "stream," and is felt to be particularly appropriate for an organization dealing with educational information on the democratic advantages of decentralization.

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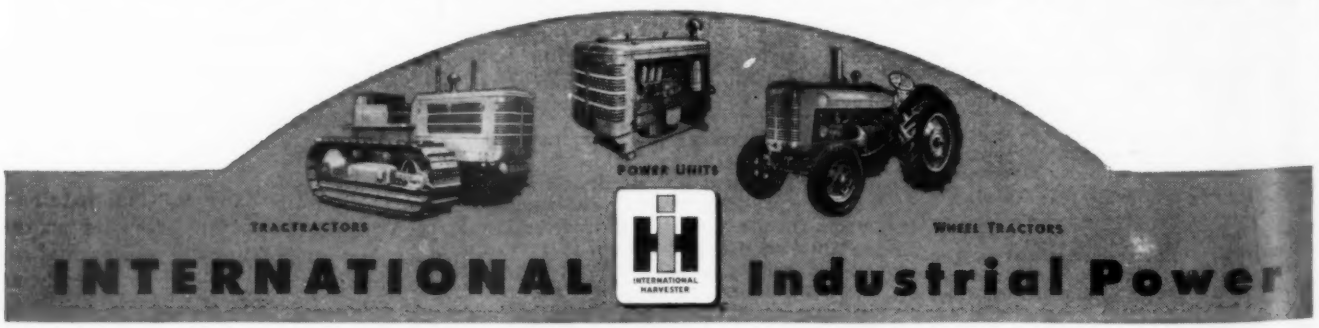


Municipal and Civic Publications

New Edition of Uniform Building Code

UNIFORM BUILDING CODE, 1946 EDITION.—*Uniform Building Code Association, 124 West Fourth Street, Los Angeles 13, Calif.* 332 *pages, indexed.* $2.50.

The 1946 edition of The Uniform Building Code has been completely revised during three years of continuous work. It contains the latest recommendation of the Uniform Building Code Association for standards of building construction.

As the Experts See It

BUILDING THE FUTURE CITY.—*The Annals of The American Academy of Policial and Socitl Science. November* 1945. 162 *pp.* $2.

A symposium devoted to the various phases of city planning, edited by Robert B. Mitchell, Executive Director, Philadelphia City Planning Commission.

Divided into four parts, this issue of *The Annals* contains articles on the following topics: Social Objectives; Future Determinants of City Form and Function; Means of Directing Urban Development; The Possible Future City.

Democracy Requires Good Management

THE MANAGEMENT OF YOUR GOVERNMENT.—*By Harold D. Smith. Whittlesey House, New York, N. Y.* 1945. 179 *pp.* $2.50.

Here is an all-over view of government for the ordinary citizen described from the vantage point of the Bureau of the Budget of the federal government by Harold D. Smith, Director of the Bureau. In the first section of this book, Democracy and Public Administration, the author shows how important he considers efficient management in government. The second section, The Management of the Government's Business, develops logically from the first; it is devoted to the role of planning in administration. The third section deals with intergovernmental relationships. In the final section, Retrospect and Prospect, are to be found the author's appraisal of our wartime experience and a statement of his belief in the necessity for planning intelligently to maintain successful democratic government in modern industrial society.

Tax-Exempt Property

MUNICIPAL REVENUES FROM FEDERALLY-OWNED PROPERTY.—*National Institute of Municipal Law Officers. 730 Jackson Place, N.W., Washington, D. C.* 1945. 11 *pp.*

A report presented to the Conference of the National Institute by City Counsel John F. Evans of Paterson, N. J. Mr. Evans states that because of extensive tax-exempt federal properties within the corporate limits of many cities, these cities are being placed in dire financial straits. In many cases factories which are federally-owned enjoy municipal police, fire, and other services, without paying the substantial local taxes which other factories have to pay.

Bibliographies

A SELECTED LIST OF REFERENCES RELATING TO THE PROPOSED MISSOURI VALLEY AUTHORITY. —*Compiled in the Library of the Departments of Architecture and Regional Planning, Harvard University, by Elizabeth M. Houston, November* 1945. *Mimeo.* 2 *pp.*

References to articles, monographs, and speeches which have been published within the last few months.

A LIST OF REFERENCES ON AIRPORT ZONING.—*Compiled in the Library of the Departments of Landscape Architecture and Regional Planning, Harvard University, by Caroline Shillaber. November* 1945. *Mimeo.* 3 *pp.*

List of artfcles and judicial cases pertaining to airport zoning ordinances.

Storage Space and Stock Control

CITY OF MILWAUKEE'S STOREHOUSES AND STOREROOMS.—*Report to the Citizens' Bureau of Milwaukee. By Albert Pleydell, Commissioner of Purchase, New York City.* 1945. *Illus.* 43 *pp.* $1. *(free to citizen governmental research bureaus).*

Findings and recommendations of a study made by Commissioner of Purchase Pleydell for the Milwaukee Citizens' Bureau. A comprehensive storehouse and control system is proposed for the city. The study points out the waste and danger of the present conditions and outlines the steps to be taken to assure a well planned, carefully organized and administered store system. Discussing each department individually, the study states the inventory and present storehouse facilities of each, pointing out the need for improvement.

To remedy present conditions the report recommends a centralized authority over all storehouses, consolidation of many of the city storehouses and an efficient system of stock control and allocation for all storerooms.

One Side of the Picture

THIS IS . . . BRIDGEPORT, CONNECTICUT UNDER THE OPA.—*As Presented by the Bridgeport Chamber of Commerce, Stratfield Hotel, Bridgeport 3, Conn.* 1945. 34 *pp.*

Opinion survey, obtained from fifty industrial plant executives in the Bridgeport area, for the purpose of determining what plant executives believe to be the effect of OPA regulations on employment, as well as the general current effect of price ceiling regulations.

The findings indicate that businessmen suspect OPA of contributing to unemployment, in the case of Bridgeport to the extent of rendering 14.8% of the current labor force jobless. They also confirm the general assumption among businessmen that wage increases without corresponding price rises will eventually work to the detriment of business.

What's Not in the Textbook

LETTERS ON PUBLIC ADMINISTRATION—FROM A DEAN TO HIS GRADUATES.—*By Lent D. Upson. National Training School for Public Service, 5135 Cass Ave., Detroit 2, Mich.* 1945. 91 *pp.*

A short collection of essays and random notes by the Dean of the School of Public Affairs and Social Work of Wayne University and Director of the National Training School for Public Service, addressed to his students, former students, and others as well. In this particular booklet the topics touched upon include "Being an Executive"; "Tools of Administration"; "Heuristics"; "Statistical Theory in One Easy Lesson."

Expressway for Wayne County

THE JOHN C. LODGE EXPRESSWAY.—*Prepared by Board of County Road Commisisoners, Wayne County, 3800 Barlum Tower, Detroit 26, Mich.* 1945. *Illus.* 21 *pp.*

This booklet was published to give the public and all agencies interested in Detroit's transportation problem the facts and figures on the proposed John D. Lodge Expressway, a federal, state, county, and city project.

Maps and photographs intended to convey the eventual appearance of Detroit's new expressway are the main features of this large-size (11½ by 17 in.) publication.

Reference Book

THE BOOK OF THE STATES 1945-1946.—*The Council of State Governments, Chicago, Ill.* 1945. 724 *pp.* $5.00.

Authoritative information on state government and reports on the work of the Council of State Governments, the commissions on interstate cooperation, and other agencies concerned with intergovernmental problems. Includes a roster of state officials.

Health Charts

HEALTH PRACTICE INDICES 1943-44.—*A Collection of Charts Showing the Range of Accomplishments in Various Fields of Community Health Service. Prepared by the Subcommittee on State and Local Health Administration for American Health Association, 1700 Broadway, New York 19, N. Y. Third edition.* 87 *pp.*

The range of health practices in 243 communities presented in 71 individual line charts covering the years 1943 and 1944. Data for the charts were submitted by local health officers of 32 states and 4 provinces of Canada. The charts should be especially useful to local health officers for purpose of comparing services in his community with practices over the United States and in Canada. A comprehensive chart is inserted at the end of the book to help the participating community find its standing in all the health practices covered. Each community is given an identifying number in the first column of the folder and, by reading across, can find its rank in the various health areas.

All About That New House

TOMORROW'S HOUSE.—*By George Nelson and Henry Wright. Simon and Schuster, New York, N. Y.* 1945. 214 *pp. Photographs.* $3.

This book, already on the best-seller list, is the accomplishment of the Consultant Editor and the Managing Editor of *Architectural Forum.* It has been proclaimed as a most influential book on post-war housing, and it certainly is one of the most attractive.

There are numerous photographs; running text with pen drawings for illustration of particular points is arranged by chapters. The table of contents covers everything from "Solar Heating" to "Bathrooms Are Out of Date." The book tells you how to plan a new home, how to remodel an old home, and how to make good use of latest technical appliances, materials, and equipment.

References for Rehabilitation

VETERAN EMPLOYMENT IN PUBLIC SERVICE.—*A Bibliography for Personnel Officers Compiled by Municipal Reference Library. 300 City Hall, Los Angeles, Calif. Dec.* 1945. 5 *cents.*

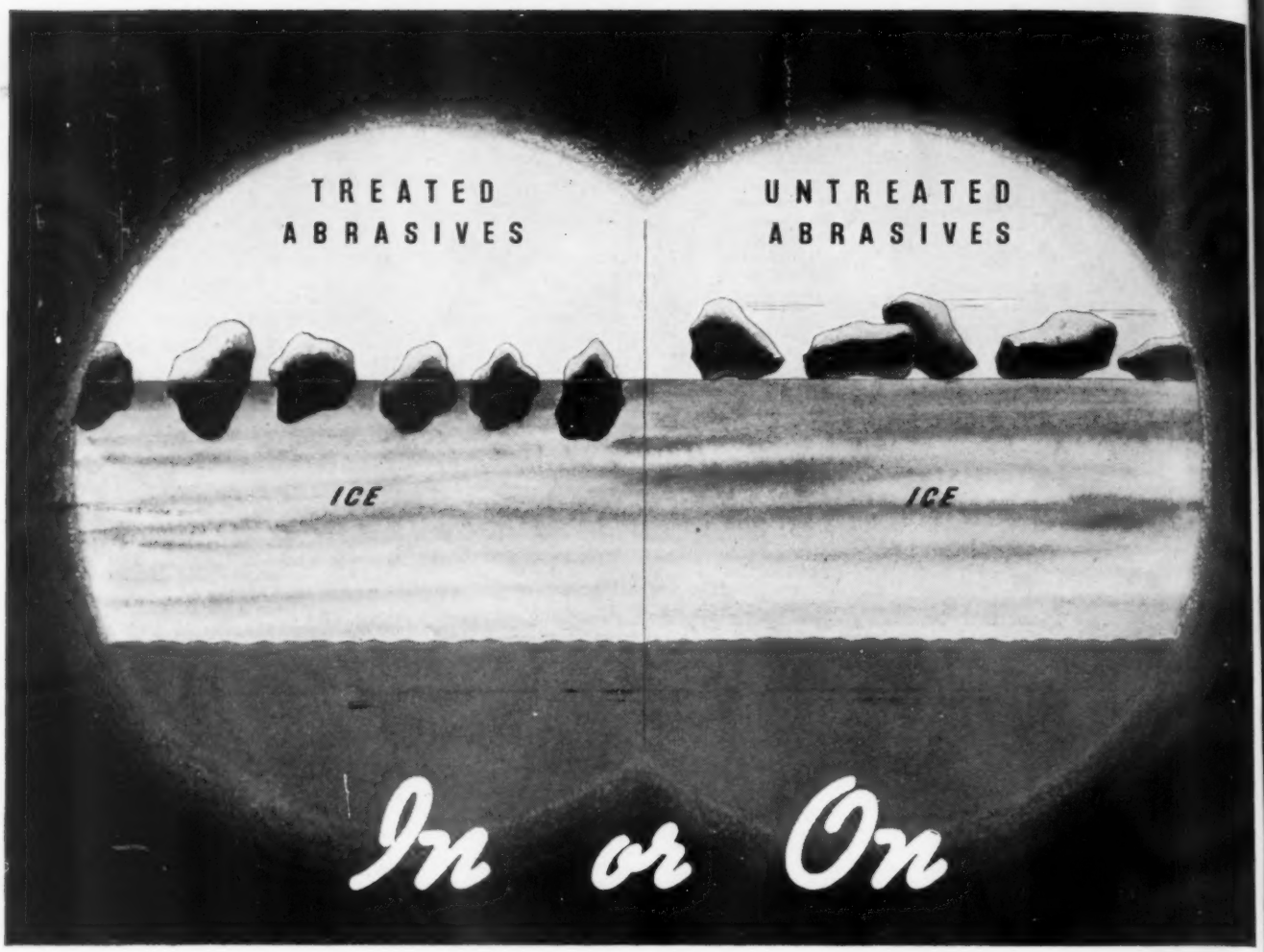
This bibliography, which makes use of the decimal system for easy reference, is subdivided into the following categories: Background, listing some of the standard source material on the question of the returning veterans; Legal Rights and Privileges; Civic Service Policies; Placement; and Handicapped.

Public Housing Program Questioned

PUBLIC SUBSIDIES FOR SLUM CLEARANCE.—*By Homer Hoyt.* The Appraisal Journal. *pp.* 352-361. *October* 1945.

Dr. Hoyt contends in this article that a large public housing program may be detrimental to our national economy. He explains his belief that acquisition costs of slum sites will be extremely high, as owners and tenants must be compensated for the loss of income yielding property or damages. This, he feels, coupled with the fact that public housing projects, which are supported by taxes levied on higher income groups, will compete for building materials and labor with private construction will result in a decrease in the number of private dwellings which can be built and an increase in costs.

Instead he proposes that after removal of price control regulations on rents and construction materials, private construction industry set out to provide five million dwellings units in the next six years. Thus, families from older houses will move to the newly built residences and millions of urban families will be able to move into better quarters at slightly higher rents. Slum clearance would then be timed to coincide with the slackening of private construction at a lower cost.



The Measure of "Grip" on Icy Roads

When grits lie loose on the ice to be easily brushed or blown away, they cannot do an effective or lasting skidproofing job. But when abrasives are treated with calcium chloride, they melt themselves into the ice, anchor themselves and really put teeth in the ice.

Automobile skid tests made under impartial supervision show that ½ lb. of abrasives, treated with calcium chloride, is as effective as 1½ lbs. of untreated abrasives. By saving two-thirds of your abrasives you save two-thirds of the cost of getting them out of the pit, putting them in piles, loading and spreading them. This means a two-third saving of manpower, equipment, tires and gasoline. Start now to save. Write for our Bulletin No. 27 "Skidproofing Icy Roads and Streets."

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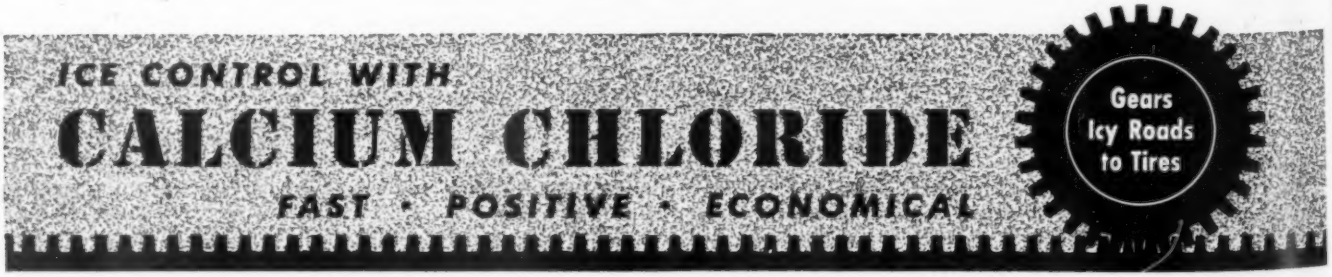


Considerations in Urban Redevelopment

LAND AND FINANCE IN URBAN REDEVELOPMENT IN THE INTEREST OF THE MUNICIPALITIES.—*Department of City Planning, 919 City County Building, Pittsburgh, Pa.* 1945. 12 *pp.*

A memorandum of elementary considerations submitted to the mayor and city council of Pittsburgh as part of a report on the groundwork and inventory for a master plan. The question of urban redevelopment is discussed and, among other recommendations, this memorandum states: If large scale private enterprise is to operate efficiently, without the irritations and interruptions and extra cost of delays while policies are being argued out which should have been settled in the beginning, then among other things the rehousing of families displaced from old dwellings within the redevelopment areas will have to be provided for in advance. A municipal clearing house for such rehousing, to function from the beginning, would appear to be one of the essentials.

To Facilitate Building Code Preparation

ADOPTION BY REFERENCE—A PROPOSAL TO FACILITATE BUILDING CODE PREPARATION AND REVISION IN MASSACHUSETTS COMMUNITIES.—*By Massachusetts Federation of Taxpayers Associations, Inc., 11 Beacon St., Boston 8, Mass.* 1945. *Mimeo.* 8 *pp.*

Explanation and discussion of a proposed statute enabling adoption of building codes by reference in Massachusetts. The booklet points out the difficulties which block statewide building regulation and suggests that the proposed adoption of standard codes by reference would facilitate somewhat the unwieldy practice of full publication of all ordinances and by-laws which is required by Massachusetts law. Adoption and revision of building codes in Massachusetts would then be a much simpler process and communities would be better prepared to meet the demands of post-war building.

Better Transportation

RAPID TRANSIT FOR TORONTO.—*Toronto Transportation Commission, Toronto, Canada.* 1945. *Illus.* 32 *pp.*

An illustrated report presenting the recommendations of the Toronto Transportation Commission for an extensive post-war program which includes new street cars, buses, and coaches, many miles of track construction, new garages, trolley bus lines, and power substations. The report points out that mere improvements in the present system will not be adequate—a fundamental change in transportation facilities is imperative. To meet this need a rapid transit system for Toronto is proposed which will cover every section of the city, facilitate the movement of goods and traffic, and provide employment for many in the post-war period.

Better Health

SUGGESTED SCHOOL HEALTH POLICIES.—*A Charter for School Health, Second edition revised by National Committee on School Health Policies of National Conference for Corporation in Health Education. Health Education Council, 10 Downing Street, New York 14, N. Y.,* 1945. 41 *pp.* 25c.

Consensus of informed professional opinion concerning the many specific school policies which indirectly or directly affect the health of children and adults. The report was prepared by the National Committee on School Health Policies and integrates the viewpoints of many professional groups on the contributions which school programs can make to the health of children and communities. Health instruction, school health personnel, school participation in community health education and health protection are all discussed in the program which is offered to improve both the health status of students in the school and of the communities in which the schools are located.

Aviation Fire Hazards

AIRPLANE CRASH FIRE FIGHTING.—*National Fire Protection Association, International, 60 Batterymarch St., Boston, Mass.* 1945. 96 *pp.* $1.00.

This booklet is one of a number of publications on fire safety issued by the Association and intended to prescribe reasonable measures for minimizing fire losses. With the increase in flying during the last few years, the fighting of airplane crash fires has become a problem of great concern to municipal fire departments and rural fire fighting forces. The manual offers valuable information for local fire fighters who will be without the specialized equipment and trained personnel of the established flying fields. Equipment, Rescue Features, Basic Fire Hazards, Fixed and Portable Protection on the Airplane, and Airfield Operations are a few of the important factors covered.

Community Responsibility

FROM VETERAN TO CIVILIAN.—*By Bradley Buell and Reginald Robinson.* Survey Midmonthly *November* 1945.

A special section in the November issue of this magazine, published by Survey Associates. The authors state in their introduction that "the veteran deserves better than to be treated as an emotional symbol: he is America's youth, and his hometown's job is to help him move into a secure future." The article is devoted to four distinct aspects of community responsibility toward the veterans: Challenge to Leadership; Priorities of Need; Brass Tacks of Planning; and Elimination of Run-Around. Cartoons by Sid Hoff.

Recreation Data

RECREATION PLAN FOR TOLEDO, OHIO.—*Published by Toledo Council of Social Agencies, Toledo Trust Bldg., Toledo, Ohio.* 1945. 93 *pp. Mimeo.*

Prepared by the National Recreation Association for the City Council of Toledo, this study presents pertinent data with respect to recreation areas and facilities, program activities, managing authority, personnel, and financial support, in an attempt to analyze the recreational needs of the Toledo metropolitan area. Maps and statistics are included.

Labor Facts and Figures

TRENDS IN COLLECTIVE BARGAINING.—*By S. T. Williamson & Herbert Harris. The Twentieth Century Fund, New York City.* 1945. 254 *pp.* $2.

Based on a survey of sixteen major industries the authors of this study summarize the development and present scope of collective bargaining.

Included is the record of wartime unionism, and finally a program evolved by the Twentieth Century Fund's Labor Committee, consisting of well-known representatives of labor, management, government, and the public, for the purpose of strengthening the bargaining process.

Of particular interest is the chapter concerning the public service, excerpts from which appears elsewhere in this issue.

(See page 89 of this issue)

Planning Guide

LOCAL PLANNING AND ZONING.—*Bureau of Planning, Department of Commerce, Albany, N. Y.* 1945. 67 *pp.*

Manual of powers and procedures for citizens and government officials. The authority under which planning and zoning agencies are created in New York State, their powers, duties, and functions, are outlined. The stress is on local planning for people rather than on planning of physical structures. A special section dealing with aviation is added.

DIRECTORY.—*Bureau of Planning, Department of Commerce, Albany, N. Y.* 1945. 102 *pp.*

List of planning organizations in the state of New York. Includes lists of communities that have adopted building codes and subdivision regulations.

Labor Legislation

GOVERNMENT AND UNION-EMPLOYER RELATIONS.—*By Leifur Mangusson. Public Administration Service, 1313 E. 60th St., Chicago, Ill.* 1945. 36 *pp.* $1.

This study of labor legislation is based upon a study made by the Legislative Reference Service with which the author was formerly associated, for the use of Congress at the request of Sen. Elbert D. Thomas.

Current state and federal legislation dealing with labor is here summarized and focused on such problems as association in trade unions, collective bargaining and governmental intervention in its processes, lawful and unlawful union activity, fair and unfair employment practices, protection of union activity by anti-injunction legislation.

Community Council

CITIZEN PARTICIPATION IN PLANNING.—*By Margaret Pouder.* The Tennessee Planner. *October* 1945.

The underlying assumption of this short article is that a community planning program can be expected to succeed only to the extent that the citizens help to make the plans. The author proposes the organization of a community council to undertake a complete inventory of the community's resources and needs and prepare an overall report which, in turn, would form the basis of a general improvement plan.

Chicago Slums

FORGOTTEN NEIGHBORHOODS—WHAT CAN BE DONE ABOUT THEM!—*By Louis A. Kurtz, 2955 Clybourn Ave., Chicago, Ill.* 1945. *Mimeo.* 45 *pp. Illus.*

A study of Chicago's blighted areas. The author describes a personal investigation of both slum districts and housing projects which have been erected on former blighted sites.

Included are a discussion of the measures so far undertaken by Chicago to remedy the situation and a plea for the passage of the Wagner Ellender bill.

Civic Education Technique

HERE'S HOW IT'S DONE.—*By Florence B. Widutis. The Postwar Information Exchange, Inc., 41 Maiden Lane, New York 7, N. Y.* 1945. 74 *pp.* $1.

A popular education guide published by Post-war Information Exchange, Inc. in cooperation with The Carnegie Endowment for International Peace. Approximately 500 community groups were polled in an effort to describe the techniques used most successfully in stimulating interest in national and international affairs. A source directory of program material is included.

This booklet covers the various "propaganda" techniques and includes all the media —radio, press, stage, film, etc.

Conference Topics

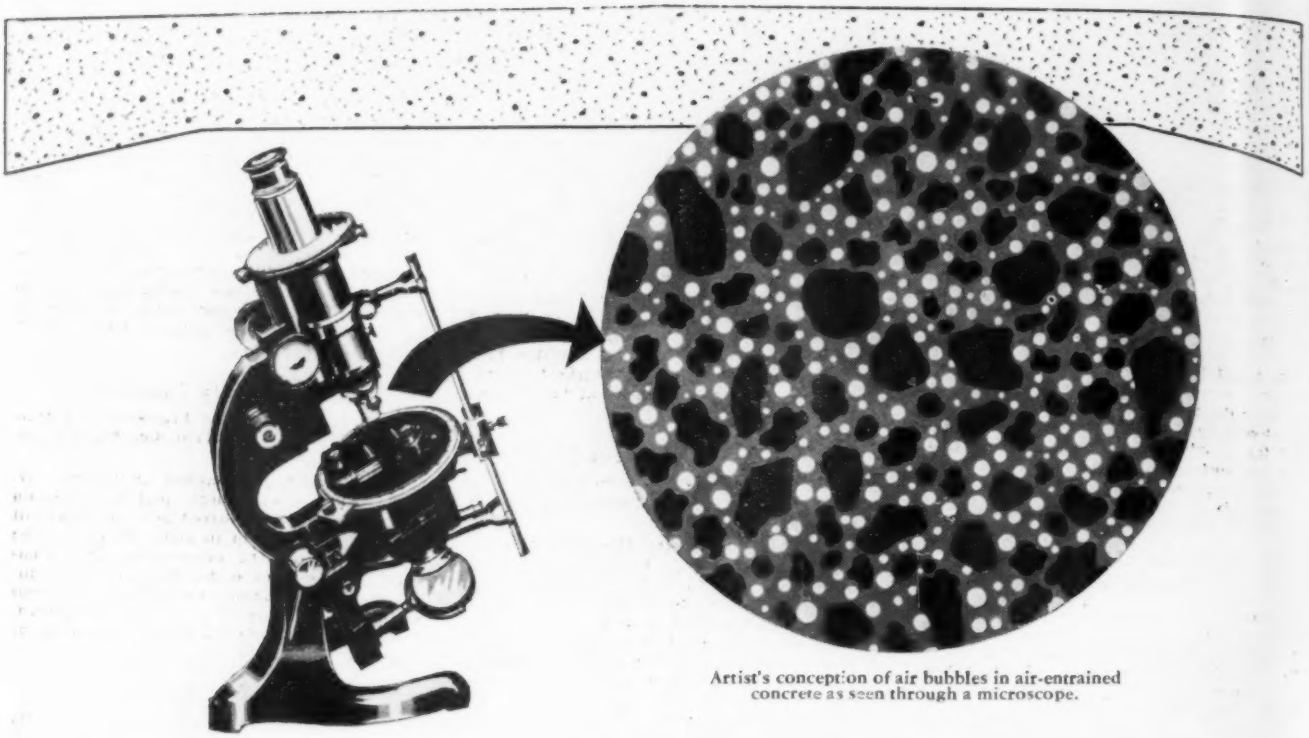
PLANNING 1945. PART I.—*American Society of Planning Officials. 1313 E. 60th St., Chicago, Ill.* 82 *pp.*

Proceedings of a discussion conference on problems of large cities held in Chicago last May. Among the topics discussed are "Immediate Demands on Planning Agencies and Planning Programs Following V-E Day"; "Responsibility of Planning Agency to Determine Employment Opportunities Outside of Public Works"; "Financing Improvement Programs"; "Urban Redevelopment"; and others.

Inadequate Urban Representation

REPORT BY THE COMMITTEE ON CITY-STATE RELATIONS.—*National Institute of Municipal Law Officers. 730 Jackson Place, N.W., Washington, D. C.* 1945. 17 *pp.*

This report points out that many state legislatures fail to provide adequate representation in the legislative branch of the government from the metropolitan areas. It concludes that improvements in this situation cannot be expected as long as state legislatures are dominated by rural representatives who are opposed to constitutional reapportionment of legislative representatives from rural to urban areas.



Artist's conception of air bubbles in air-entrained concrete as seen through a microscope.

AIR BUBBLES IN CONCRETE

Millions of minute, disconnected air bubbles trapped in concrete by using a new product,

AIR-ENTRAINING PORTLAND CEMENT

is the answer of research to the problem of concrete pavement scaling.

The repeated use of concentrated calcium chloride and common salt to melt ice and snow on main traveled highways and streets, (a relatively new and largely wartime expedient), has caused unsightly scaling of well-constructed concrete pavements Impaired riding qualities and increased maintenance have often resulted.

To conserve the public's investment in *existing concrete* pavements, the *careless* use of such concentrated chemicals should be avoided. If chloride salts are to be used for ice control, the pavements should receive a protective treatment *developed by research* and the chemicals should be used *intelligently and sparingly.*

For *future pavements,* the protection should be *built in the concrete* by using

AIR-ENTRAINING PORTLAND CEMENT

Send for bulletins, "Elimination of Pavement Scaling by Use of Air-Entraining Portland Cement," and "Protection of Existing Concrete Pavements from Salt and Calcium Chloride." Free in United States and Canada.

PORTLAND CEMENT ASSOCIATION

Dept. 1-4, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete ... through scientific research and engineering field work

Air-entraining portland cement was used in the 10-in. concrete slab on the Davison Limited Access Highway in Detroit

A Controversial Issue

SALES TAXES AND OTHER EXCISES.—*By Roy G. and Gladys C. Blakey. Public Administration Service, 1313 East 60th St., Chicago, Ill. 1945. 216 pp. $3.*

This monograph is concerned with the phenomenal growth of American sales taxes during the last twelve years or so. It shows the important features of this development and the characteristics of the principal sales taxes.

Brief discussions of use taxes, chain store taxes, the shifting and incidence of sales taxes, and the question of whether or not we should adopt a national sales tax are also included.

Airport Finances

AIRPORT ACCOUNTS.—*By Joseph M. Cunningham. Municipal Finance Officers Association, 1313 E. 60th St., Chicago, Ill. 1945. 28 pp. $1.25.*

System of accounts for airport operation, applicable to large and small airports, government-operated and otherwise. If airports are to become self-supporting, an accurate analysis of expenditures and revenues to cover them is absolutely necessary, particularly to the municipal official who must deal with commercial lines, and who might be called upon to present data for the determination of federal policy with regard to airport operation.

Municipal Cooperation

RELATIONS OF METROPOLITAN CITIES WITH ADJOINING MUNICIPALITIES.—*By Percey Fewell. University Park, Texas. 14 pp.*

The author of this essay, City Attorney of University Park, states that matters have come to the point where cities must take steps to plan for the general good in a spirit of cooperation rather than competition, if they want to avoid interference by the central government.

He mentions specifically the need for greater coordination among municipalities for the purpose of solving common political, social, and economic problems, such as has long been practiced in the Chicago district and on the West Coast. The need for greater vision with regard to suburban development is stressed in particular.

The Case For and Against Valley Authorities

VALLEY AUTHORITIES: SHALL WE ESTABLISH REGIONAL DEVELOPMENTS?—*National League of Women Voters, 726 Jackson Place, N.W., Washington 6, D. C. October 1945. 20 pp. 10c.*

An exceptionally lucid and well-balanced analysis of an important problem of public policy. The achievements and costs of the Tennessee Valley Authority and the case for and against the establishment of other valley authorities—particularly the Missouri Valley and Columbia Valley Authority—are concisely presented in this "Memo." There is also a bibliography of suggestions for further reading.

(See page 7 of this issue)

Other Reports Received

MULTNOMAH COUNTY, ORE.—Budget Facts and Financial Statistics of Multnomah County. 1945-1946. 80 pp.

NORTH CAROLINA—Roster of Municipal Officials in North Carolina. Published by North Carolina League of Municipalities, Raleigh, N. C. 1945. 20 pp.

PHILADELPHIA, PA.—Philadelphia's Debt Limit. Bureau of Municipal Research of Philadelphia. 1945. 31 pp.

OMAHA, NEBR.—Zone Ordinance No. 15239. City Planning Commission, 1945. 47 pp.

—City Plan in Three Chapters: Population; Land Use and Zoning; Parks, Recreation and Schools. City Planning Commision. 1945. 44, 30, 78 pp. resp.

The Municipal Bond Market

Some sales of new issues as reported in the December issues of *The Bond Buyer:*

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$250,000	Des Moines, Iowa, Ind. Sch. Dist.	.63	1.5 Avg.	.606
525,000	Stockton, Calif., Sewer System	.75	3-5 Ser.	.9147
2,840,000	Richmond, Va., Public Improvement	1	1-20 Ser.	.887
125,000	Bloomington, Ind., Refunding of 1945	1	7.5 Avg.	.973
1,290,000	Dallas,, Tex. Street Opening & Widening	1.10	10.33 Avg.	1.259
400,000	Gainesville, Fla., Electric Revenue	1.20	7.5 Avg.	1.198
164,000	Guthrie, Okla., Airport	1.125	11.5 Avg.	1.24
118,000	Bedford, Pa. Sch. Dist.	1.25	9.83 Avg.	1.096
390,000	Boston, Mass., Sewerage	1.25	1-30 Ser.	1.20856
150,000	Nashville, Tenn., Water Works Revenue, Series, 1946	1.50	1-15 Ser.	1.292
324,000	St. Petersburg, Fla., Gas Plant Revenue, Series A Certificates	1.75	8-25 Ser.	1.85
268,000	Hudson, Ohio, Refunding	1.75	11.16 Avg.	1.59
160,000	Phoenix, Ariz., Sewer Refunding, Series 1946	2.-1.10	9 Avg.	1.19
267,000	Hendersonville, N. C. General Refunding	2.50	8.5 Avg.	2.464

Planning Aids Action on Public Works in Tucson, Arizona

AS A result of intensive planning activity over a period of four years, Tucson, Ariz., faces the post-war era with confidence and inclusive improvement plans. The way in which the various civic and governmental agencies cooperated to make it possible was described in the October 1944 issue of THE AMERICAN CITY. The existence of carefully formulated plans has made it possible to schedule priority of surveys, designs, and construction of improvements intelligently. A thoroughfare plan, a plan for grouping public and semi-public buildings, and a plan for grade separation and railroad facilities have been adopted by the City Planning and Zoning Commission. Plans for parks, schools, parking, streets, transit, and neighborhood rehabilitation are scheduled for later adoption and a long-range improvement program has been prepared.

Many Plans Studied

Since December 1941, the Planning Office of Tucson has studied over fifty subdivision plans, twenty-three of which have meanwhile been approved by the City Planning Commission for recommendation to the Mayor and Council. Many others are still under study. The approved and pending subdivisions together comprise an area of over two and one-half square miles, all but a quarter of the area being outside the city limits.

According to an account of Tucson's experience in the November issue (number 4) of *The Tucson Regional Plan Progress,* two major thoroughfare and parkway extensions have already been obtained while others are still under consideration. Of the park and playground projects, Estevan Park, a Negro recreation center, is now being developed, with the greater part of the land already acquired. Other recreational facilities include park improvements and the building of new parks.

Property has also been acquired for a civic and governmental center. Additional property to meet the need of future public building sites is under negotiation. It is expected that public and semi-public agencies and institutions will coordinate their construction projects to fit into the general scheme of the civic center.

Airport Development

The development of airfields, both small and major, comprises a considerable portion of the improvement program. Several sites are pending approval by the city and county planning agencies under the new regulation by the CAA.

Special attention is being accorded to neighborhood development. It is the underlying purpose of this phase of the regional plan to retain, as much as possible, the particular features of the Arizona landscape and local characteristics. The design and layout of streets are considered particularly important with regard to land development for urban use. The trend is definitely away from the gridiron pattern, with greater stress being put on self-contained neighborhoods with parks, school and shopping sites within easy reach.

Planning activity in Tucson does not restrict itself to "post-war" plans, but is rather a continuous phase of civic and municipal activity. Growing public interest and participation in community planning of specific neighborhoods are encouraging trends encountered in the course of these developments.

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200,000 Meter Test and History Records provide a positive control of valuable property.

The Gas Main Extension Record furnishes instant reference to all needed facts. Cards are filed geographically.

No half-way measures were good enough for the Memphis Light, Gas and Water Division, when it determined in 1942 to improve operating efficiency with centralized record controls.

Kardex Visible was selected. Duplicated and overlapping records went out, along with waste time and needless delay. Kardex Customer History, Service Location, Investigation, Meter History and Service Records make "Fact-Power" so accessible its use is practically automatic in processing applications, orders and collections.

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Full details are in our new Systems Narrator No. 573, available free on request.

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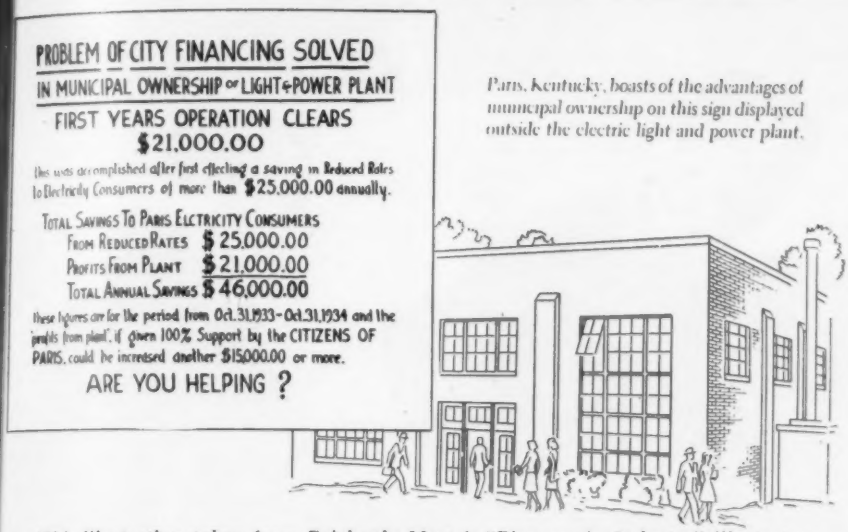
News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings


PROBLEM OF CITY FINANCING SOLVED
IN MUNICIPAL OWNERSHIP OF LIGHT & POWER PLANT
FIRST YEARS OPERATION CLEARS
$21,000.00
this was accomplished after first effecting a saving in Reduced Rates to Electricity Consumers of more than $25,000.00 annually.
TOTAL SAVINGS TO PARIS ELECTRICITY CONSUMERS
FROM REDUCED RATES $ 25,000.00
PROFITS FROM PLANT $ 21,000.00
TOTAL ANNUAL SAVINGS $ 46,000.00
these figures are for the period from Oct. 31, 1933 - Oct. 31, 1934 and the profits from plant, if given 100% Support by the CITIZENS OF PARIS, could be increased another $15,000.00 or more.
ARE YOU HELPING ?

Paris, Kentucky, boasts of the advantages of municipal ownership on this sign displayed outside the electric light and power plant.

This illustration taken from Fairbanks-Morse's "Pioneers in Industry" illustrates a typical municipal diesel-powered plant that is helping the community effect savings

The Second Hundred Years of Fairbanks, Morse & Co.

Fairbanks-Morse is a great name not only in industry but also in municipal government. Where water plants pump and purify, sewage plants pump and utilize gas, or diesel electric plants reduce taxes, there will be found Fairbanks-Morse pumps, diesel engines, electric generators and motors. Thus a clear well-illustrated history of this company is a useful and well timed event. Such a history has just been issued—a handsome 160-page book entitled "Pioneers in Industry" 1830-1945, and the material below is mostly taken from this book.

The first clearing in the wilderness was the invention of an accurate weighing machine by Thaddeus Fairbanks in 1830. The trail was further blazed by the establishing of the company's western business in 1857 and the decision to develop and promote the then untested gasoline engine in 1893—both were depression and panic years. Again in 1932 when America's "pioneering days were over" diesel engines were developed which made municipal power plants in small places become feasible and economical. Moreover, a service was provided which designs and builds these plants complete with diesels and electrical equipment and the building. Financing, too, is arranged through its Municipal Acceptance Corporation. After paying for the plant and system out of earnings, municipalities have used the continuing surplus or savings for reducing taxes and building sewers, paving streets, equipping playgrounds, improving parks and street lighting.

In 1913 the first Fairbanks-Morse diesel engine went into production. Today more than 3,500,000 hp are in operation. The Inland Utilities Company, a wholly-owned subsidiary organized in 1924, took over a number of small local light plants which now are outfitted with modern diesel engine generator equipment. The utility system serves 41 small cities and towns in western Kansas, southern Colorado, and northern New Mexico.

The company's interest in pumps dates back to the late 1870's when a line of pumps was manufactured for use in connection with the Eclipse windmill then being made at the Beloit works.

Turbine and propeller pumps were added to the line in 1925 by acquisition of the San Francisco plant of the G. W. Price Pump and Engine Company. Water-lubricated turbine pumps and the Westco peripheral type pump were added in 1944 through purchase of the Pomona Pump Factories. Today a full line of pumps is available for municipal plants together with engines and motors of the same make to drive them.

In 1927 Dr. Henry B. Ward head of the Department of Biology of the University of Illinois said "85 percent of our cities are pouring untreated sewage into streams; 95 percent of the streams are polluted—some to the extent that the health of the cities they support is in danger." The company's engineers surveyed the various types of sewage disposal systems then in operation, and then developed special pumps for this exacting field.

The golden age and character-forming era may be said to have occurred during the 71 years to 1921 that Charles Hosmer Morse was employee, partner, president and chairman of the company. The continuous Morse management—Col. Robert Hosmer Morse is now president and general manager—is undoubtedly a powerful factor in making Fairbanks, Morse & Co. an institution of international importance with a still bigger future ahead.

John Bean Purchases New Plant

John Bean Mfg. Co., Division of Food Machinery Corp., Lansing 4, Mich., recently purchased a government-owned plant on South Cedar St., Lansing, that was operated during the war by the Nash-Kelvinator Corp., according to an announcement by Howard C. Lisle, President and General Manager.

Manufacturing facilities of the company had been taxed beyond capacity and, states Mr. Lisle, "this deal will give us three times the floor area we have at present and make it possible to bring many operations to Lansing that are now handled in other cities." The new buildings are being prepared for these operations as rapidly as possible. Production will continue in the present plants until they can be transferred to the new location.

About one-third of this factory will be used for the manufacture of F.M.C. High Pressure Fog Fire Fighters.

Holophane Forms Sales Promotion Department

The Holophane Co., 342 Madison Ave., New York, N. Y., has created a Sales Promotion Department under the management of Merritt Horner, formerly New England Manager for the organization, to meet new problems of post-war marketing and to present its many new technical products.

Merritt Horner

Mr. Horner is a graduate of Polytechnic Institute, a registered professional engineer and a former officer in the U. S. Naval Reserve. He has been with the company for seventeen years, prominently identified with technical sales promotion. He also has been active in the New England Section of the Illuminating Engineering Society serving as chairman of many committees.

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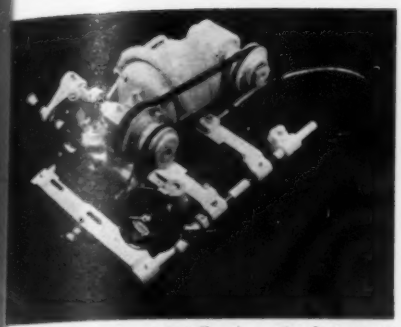


The Chem-Feeds Vari-Feeder which pumps at speeds up to 400 strokes to allow accurate proportioning of chemicals

Morse Boulger Buys Chem-Feeds, Inc.

Morse Boulger Destructor Co., 205 E. 42nd St., New York 17, N. Y., has purchased Chem-Feeds, Inc, Providence, R. I. The business will be known as the Chemical Feeders Division of Morse Boulger Destructor Co., and will be headed by Jeff Corydon II who started and developed Chem-Feeds, Inc.

The outstanding feature of the Vari-Feeder, the company's principal product, is controlled speed. It can pump at speeds up to 400 strokes per minute which enables the operator to control the proportioning more accurately than when a low-stroke feeder is used. The apparatus is capable of "controlled" feeding of any wet chemical and of feeding against pressures.

Promotions at Gar Wood

W. H. Hammond was recently promoted to the newly created post of Vice-President in charge of Sales of Gar Wood Industries, Inc., Detroit, Mich., according to an announcement by Glen A. Bassett, President. Mr. Hammond was formerly Sales Manager of the hoist, body and tank divisions only, and director of branches with the title of Vice-President.

W. H. Hammond

Mr. Hammond will now supervise the sales activities of the winch and crane, road machinery, heating, and boat divisions in addition to those formerly under his charge and will continue as director of branches.

Mr. Hammond joined Gar Wood as bookkeeper in 1921 shortly after his discharge from the Army. He was named manager of the Baltimore branch in 1925 and of the Boston branch in 1929. He came to New York in 1933 to head activities there, and assumed the position he just vacated in 1934.

It has also been announced that Edward Boehm, Vice-President and Treasurer, has been elected a director of the company. Mr. Boehm is also a director of General Instrument Corp.

Gregg Co. Announcements

The Gregg Co., Philadelphia, Pa., announced that the Nicholson Engineering Co. of Camden, N. J., has been appointed representative for the sale of Rusta Restor cathodic tank protection equipment and Nu-type technical coatings in the southern part of New Jersey.

The Gregg Company is the sales representative in eastern territory of The Johnston & Jennings Co., Cleveland, Ohio, manufacturer of Rusta Restor cathodic protection equipment.

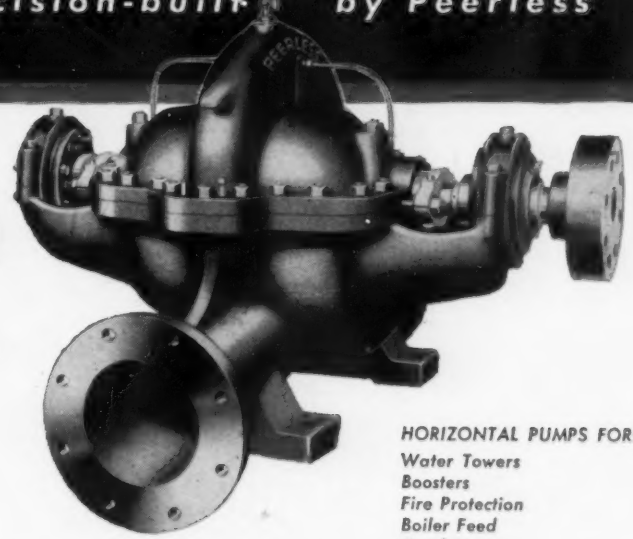
Mr. A. C. Nicholson, who operates the Camden concern, has long been active in the marine field and also in connection with protective anti-corrosion coatings. He was formerly Chief Engineer of W. A. Briggs Bitumen Company.

It is also announced that Mr. Burton Richards who was formerly with The Gregg Company has returned after four and one-half years in the Army and is now Manager of the Rusta-Restor Division with headquarters in the Philadelphia office.

Continuous Duty

HORIZONTAL PUMPS

Precision-built by Peerless



PEERLESS PUMPS

Formerly Dayton-Dowd

HORIZONTAL PUMPS FOR:
Water Towers
Boosters
Fire Protection
Boiler Feed
Condensate
Sewage
Chemicals

VERTICAL PUMP TYPES:
Deep Well Turbine
Hi-Lift (Moyno Type)
Centrifugal
Sewage
Jet
Shallow Well
Hydro-Foil (propeller)

Peerless (formerly Dayton-Dowd) Horizontal Centrifugal split case or solid volute pumps, single and multi-stage are found wherever reliability, dependability and economical operating are desired. Engineered and manufactured with a view to long life, Peerless Pumps are available for all classes of pumping requirements.

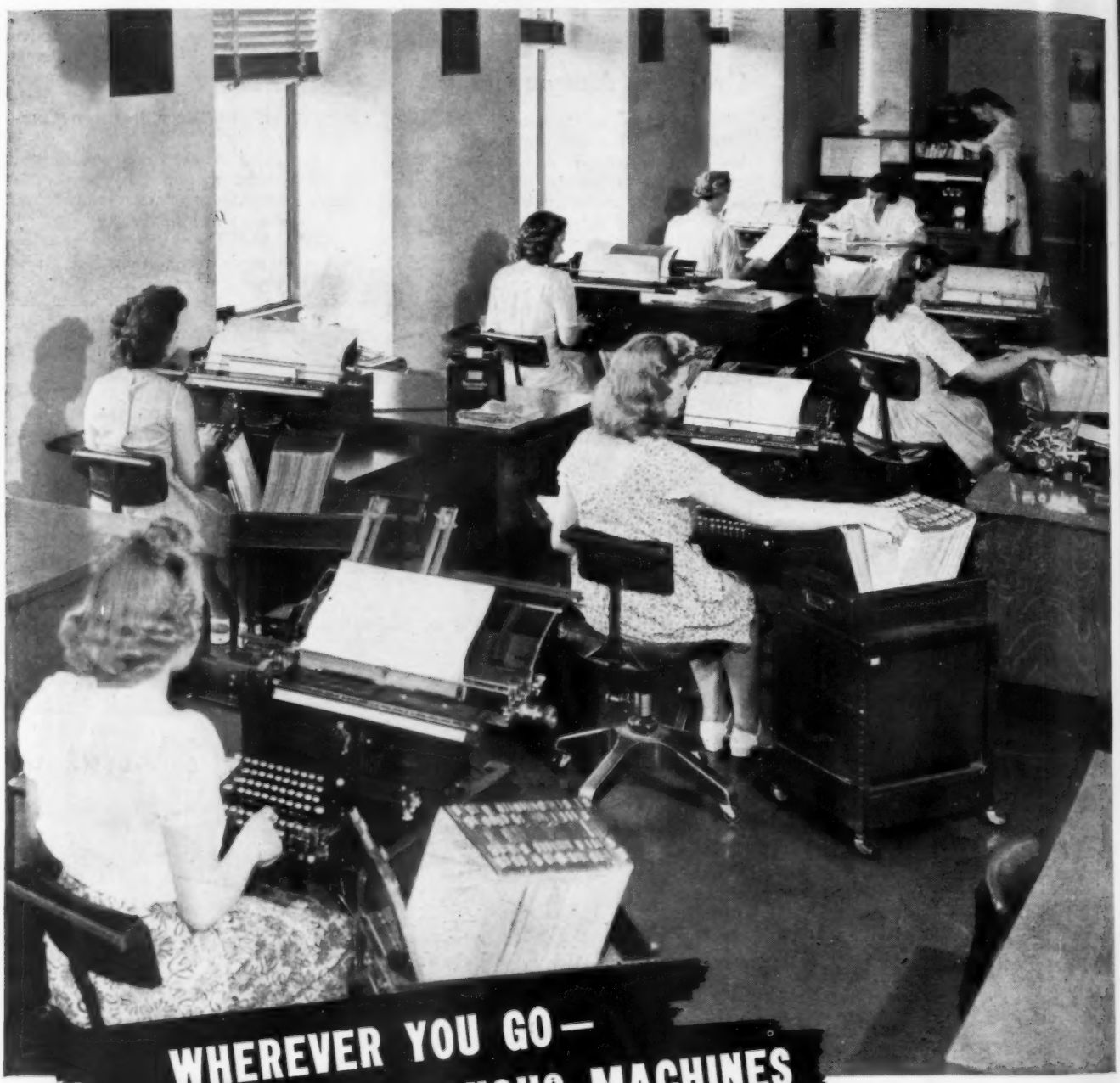
The right pump for the right job. All inquiries and specifications processed by trained engineers.

PEERLESS PUMPS

PEERLESS PUMP DIVISION
Food Machinery Corp.

FACTORIES
LOS ANGELES 31, CALIFORNIA
301 West Avenue Twenty-six
QUINCY, ILL. • CANTON 6, OHIO

• This installation of Burroughs Typewriter Accounting Machines at Purdue University, Lafayette, Indiana, is typical of thousands of offices throughout the nation that depend on Burroughs machines for fast, accurate handling of all types of accounting work.



WHEREVER YOU GO—
YOU SEE BURROUGHS MACHINES

1st Burroughs
IN MACHINES
IN COUNSEL
IN SERVICE

In schools, banks, business organizations . . . wherever you go . . . you see Burroughs machines. These users give many reasons why they like to do business with Burroughs. One reason frequently mentioned is the efficient maintenance service rendered through hundreds of local service centers by Burroughs' own factory-trained service men—a service that has won the highest respect of business machine users everywhere as the finest safeguard that the maker of a high-quality product can provide to insure the uninterrupted performance and long life of its products.

BURROUGHS ADDING MACHINE COMPANY, DETROIT 32, MICHIGAN

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

Byron Jackson officials who left to survey European markets: Robert Harcus, Foreign Representative; O. W. Morgan, Sales Manager, Oil Tool Division; Lynn Sawyer, Vice-President and Manager of Pump Division

Byron Jackson Officials Make European Survey

Lynn Sawyer, Vice-President and General Manager of the Pump Division of Byron Jackson Co., Los Angeles, Calif., left LaGuardia Field, New York, recently for an extended visit in England and on the continent. He was accompanied by O. W. Morgan, Sales Manager of the Oil Tool Division and Robert Harcus, Foreign Representative.

The purpose of their visit is to consult with hydraulic and petroleum engineers in England, France, Belgium, and the Netherlands concerning future requirements for centrifugal pumps, submersible motors, oil well drilling, and production tools.

Anthony Anable Returns to Dorr

Lieutenant Commander Anthony Anable, U. S. Naval Reserve, has rejoined The Dorr Co., 570 Lexington Ave., New York 22, N. Y., as Director of Public Relations and Advertising.

WHITE STUDIO
Anthony Anable

Commander Anable has been on military leave from the company since shortly after Pearl Harbor. As navigating officer of an aircraft carrier he participated in four major Naval actions in support of the invasions of Southern France, the Philippines, Iwo Jima, and Okinawa.

Big Post-War Transformer Plant

The American Transformer Co., Newark, N. J., announces through its President, Thomas M. Hunter, the acquisition of a tract of land located in Union Township on which a modern manufacturing plant will be constructed. Mayor F. Edward Biertuempfel of Union Township visited the company's plants in Newark recently with other city officials and approved the proposed plans.

Founded in 1901, the company manufactures transformers, rectifiers, amplifiers, and specialty testing equipment, as well as large transformers for power lines and distribution systems and electronic equipment.

The company also announced the following changes in its executive personnel:

Walter Garlick, Jr., Vice-President, will be in charge of sales and related activities.

A. A. Emlen, Vice-President to be in charge of engineering.

W. R. Smith, Works Manager, will relieve Mr. Emlen of all supervision and responsibility in connection with factory operations.

Ringstyle VALVES

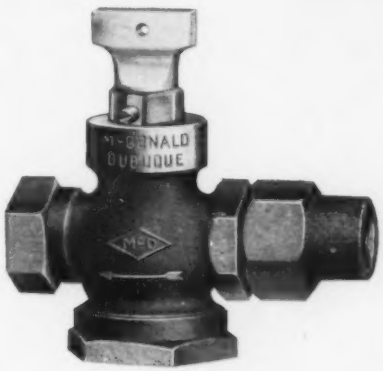
Quality inverted-key angle valves with coupling nuts for water meter attached. Made in three sizes.

Connect to iron, copper or thin-wall lead. Simple. Easy to install.

Ask for further information and free sample of RINGSTYLE Valve.

FORD
Meter Box Co.,
WABASH, INDIANA

Diamond
CURB
STOP

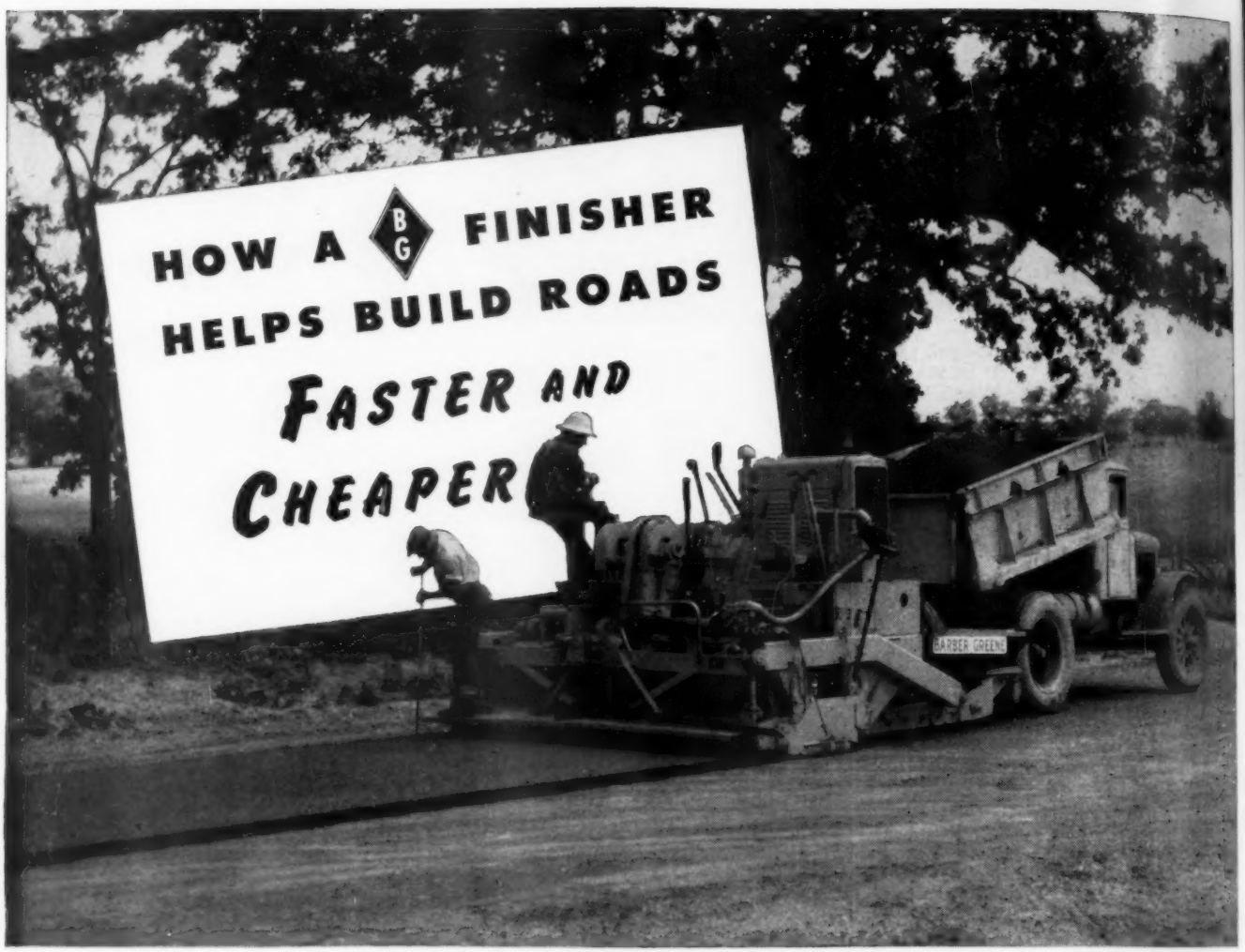


by McDonald

Yes, "Diamond" is the trade name for McDonald's line of waterworks goods . . . a line that has won outstanding acceptance through the years since 1856. Illustrated is the Patent Cap Inverted Key Curb Stop, Plate E-4711 . . . one of the many items shown in our complete catalog. It is for copper service pipe. Round way, Galvanized Malleable Tee Handles.

EST. 1856
McDonald

A. Y. McDONALD MFG. CO.
DUBUQUE, IOWA
BRASS GOODS • PUMPS • OIL EQUIPMENT



• Here's a machine that performs three jobs at once. And you can keep it moving steadily—all day long. In rapid succession, truckloads of asphalt mix are mechanically spread . . . "kneaded" and thoroughly *tamped* in place . . . and automatically leveled—all in one operation.

Moreover, the Barber-Greene Tamping-Leveling Finisher helps provide fast, cheap road construction by reducing the amount of rolling for adequate compaction . . . eliminating hand labor behind the machine . . . decreasing truck delay . . . cutting out the hazards encountered in other methods.

You'll find that a B-G Finisher saves days and dollars on every black top paving job. It handles mixes extremely difficult or impossible to lay by other means . . . maintains a mat of uniform thickness, ranging from ¼-inch to 6 inches . . . holds an accurate crown . . . and tightly seals joints with adjacent strips.

Before the call comes for the hurry-up resurfacing of worn-out highways, and the speedy construction of new roads and airports, plan to add a B-G *Tamping-Leveling* Finisher to your equipment. Write for literature outlining the functions and performance of this versatile machine. Barber-Greene Company, Aurora, Illinois.

Barber-Greene B G *Constant Flow Equipment*

45-8

Rosco's light-weight street flusher is suitable for high-speed trailing behind a tractor or truck

Light-Weight Street Flusher

Small cities, towns, and villages interested in a power pumping machine for cleaning, spraying, fire fighting, or transferring of water will want to look into the light-weight street flusher manufactured by the Rosco Manufacturing Co., 3118 Snelling Ave., Minneapolis 6, Minn.

This street cleaning and sprinkling unit is light weight and efficient. Equipped with pneumatic tires it is suitable for high speed trailing behind tractor or truck.

Pittsburgh Equitable Co. Becomes Rockwell Mfg. Co.

Stockholders of the Pittsburgh Equitable Meter Co., 400 North Lexington Ave., Pittsburgh 8, Pa., recently approved the recommendations of the Board of Directors that the company name be changed to the Rockwell Manufacturing Co., and that stock be split, four shares for one.

The Pittsburgh Equitable Meter Division of Rockwell Manufacturing Company will manufacture and handle the sale of water meters, gas meters, regulators, gasoline and oil meters, and kindred products. The increasing scope of the company's manufacturing facilities and products prompted this change in the company name.

Directors of the Pittsburgh Equitable Meter Co. will continue as Directors of the Rockwell Manufacturing Co. Col. Willard F. Rockwell is Chairman of the Board and President. Other officers of the Rockwell company include: W. F. Rockwell, Jr., Vice-President and General Manager; J. Frank Drake, W. S. Potter and A. J. Kerr. Vice-Presidents: H. A. Phillips, Vice-President and Secretary; Edgar W. Meyers, Treasurer; and E. W. Meyers, Jr., Controller.

Directors of the Merco Nordstrom Valve Co., subsidiary of The Rockwell Mfg. Co., also announce the shortening of the name to Nordstrom Valve Co. This company builds lubricated plug valves, air and service cocks, Nordco lubricants and valve accessories.

The company name of another subsidiary of the Rockwell organization, The Edward Valve & Mfg. Co., Inc., East Chicago, Ind., has been shortened to Edward Valves, Inc. This company manufactures cast and forged steel valves. No changes in personnel or sales policies are planned.

Ice Removal Bureau Formed

A new organization with offices at 122 E. 42nd St., New York, N. J., has been formed to promote and publicize research on more efficient snow and ice removal techniques throughout the snow-belt area. Lloyd B. Reid, Traffic Engineer of Detroit and former Michigan State Highway Commissioner, will head the newly formed Ice Removal Bureau.

Lloyd B. Reid

The Ice Removal Bureau, sponsored by the International Salt Co., Inc., Scranton, Pa., will operate as an educational, non-profit agency to make available to commissioners and public alike findings about more efficient snow removal techniques with rock salt. In addition, it will work with safety organizations and assist in their continuous campaign against traffic accidents through complete snow and ice removal from the beginning of a storm.

Mr. Reid is one of the country's outstanding authorities on highway engineering, and has long advocated the complete modernization and revamping of existing obsolete snow-removal methods in order that clear traffic lanes may be maintained all year 'round.

why this way?

when it can be *this* way:

with Dean truck mounted valve operator

RENSSELAER VALVE CO.
TROY, NEW YORK

A timely message to City Managers

HAND heavy-duty storage batteries, when installed in the following Departmental vehicles, show long life characteristics:

POLICE RADIO CARS	3-6 yrs.
SANITATION TRUCKS	3-6 yrs.
ROAD SCRAPERS & SNOW PLOWS	3-6 yrs.
EMERGENCY TRUCKS & AMBULANCES	4-6 yrs.
FIRE ENGINES	4-9 yrs.

HAND storage batteries are unconditionally guaranteed for two years. Departmental test runs are invited.

The HAND LABORATORY
for
Electro-Chemical Research and Development
Nyack, N. Y.

"Are any of your roads too narrow?

. . . OR HAVE THEY DANGEROUS DROPS FROM PAVEMENT TO SHOULDER?"

THE PROBLEM

Roads too narrow to carry today's fast-moving traffic safely and satisfactorily may be swiftly and economically widened with Tarvia* or Tarvia-lithic.*

The methods are simple and inexpensive, and there are combinations of Tarvia and aggregate which are adaptable to any kind of road and any condition of shoulder areas.

THE SOLUTION

Dangerous drops between pavement and unfinished shoulder are done away with, and the widening not only extends the life of the road but also increases the amount of traffic it can safely accommodate.

Why not check the narrow roads in your locality? The Tarvia field man can advise the proper shoulder foundations and wearing surfaces, and he will be glad to work with you.

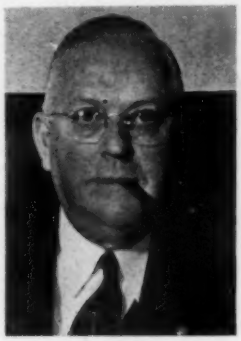
THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

New York • Chicago • Birmingham • St. Louis • Detroit • Philadelphia • Boston
Rochester • Minneapolis • Cleveland • Columbus • Toledo • Youngstown • Syracuse
Buffalo • Cincinnati • Bethlehem • Portland, Me. • Bangor Me. • Norwood, N. Y.
Oneonta, N. Y. • Elmira, N. Y. • Cromwell, Conn. • Norwich, Conn. • Savannah, Ga.
In Canada: THE BARRETT CO., LTD. Montreal • Toronto • Winnipeg • Vancouver

Barrett Tarvia*
*Reg. U. S. Pat. Off

Ask Him About Alloys

C. L. Hancock, Bridgeport Brass Co., Bridgeport, Conn., has been promoted to Manager of the Technical Service Department, which is designed to help in the selection of silicon bronzes and aluminum bronzes, corrosion-resisting condenser and heat exchanger tube alloys, and bronze trolley wire for the electrified transportation field.



Clarence L. Hancock

Mr. Hancock has served the company for 25 years; previously he was located in the New York office where he was Sales Manager of Phono-Electric Trolley Wire and condenser tubing.

Daunt Corporation Appoints Chief Engineer

L. M. Dellinger is now affiliated with The Daunt Corp., 120-126 Sutton St., Brooklyn 22, N. Y., as Chief Engineer and Production Manager, according to a recent announcement. Mr. Dellinger was formerly with the Westinghouse Electric Corp.

The Daunt Corp. manufactures metal antennae for radio-television, standards and luminaires for street lighting, and miscellaneous fabricated metal specialties.

Mueller Brass Sales Manager Makes Tour of West

Fred L. Riggin, Jr., General Sales Manager of the Mueller Brass Co., Port Huron, Mich., recently completed an extensive tour of the company's west coast sales offices and warehouses.

Fred L. Riggin, Jr.

During this trip Mr. Riggin had an opportunity to meet a number of business leaders in these territories and was impressed by the enthusiasm of those with whom he talked. This enthusiasm finds expression in expanded operations which in many cases involve extensive construction programs backed by intelligent business planning.

The Mueller Brass Co. manufactures Streamline copper tube and solder type fittings, brass,. bronze, and aluminum forgings, screw machine products, and a complete line of refrigeration products used by manufacturers of commercial and domestic refrigeration and air conditioning units.

Jacobsen Manufacturing Purchases Lawn Mower Company

Jacobsen Manufacturing Co., Racine, Wis. recently purchased the Worthington Mower Co., Stroudsburg, Pa., according to an announcement by O. T. Jacobsen, President. This acquisition will make the Jacobsen Manufacturing Co. and affiliated concerns the largest consolidation in the power mower industry.

Jacobsen power mowers for golf courses, parks, cemeteries, industrial users, and home owners will continue to be manufactured in the Jacobsen plant in Racine and distributed through established Jacobsen sales channels. The Worthington line of mowers will continue to be produced at Stroudsburg and E. R. Sawtelle, Vice-President and Sales Manager of Worthington, will continue to direct sales of Worthington products. The hand and light-weight power mowers of the third company in this group, the Johnston Lawn Mower Corp., Ottumwa, Iowa, will be distributed through established jobber outlets. Overall sales policies will be coordinated and directed in Racine.

GENUINE CAST BRONZE

TABLETS
HONOR ROLLS
· PLAQUES ·
MEMORIALS

Individually Designed for Industrial Concerns Commercial or Organization

Write For Details To Division 12

EMPIRE BRONZE

BETHESDA 14, MARYLAND
N.Y. OFFICE 475 5TH AVE.

JOBS GO FASTER.. with steel sheeting

In many cases, ARMCO Sheeting can be driven the full depth before excavating.

Let's see how ARMCO Sheeting does it—

This sturdy, light-weight sheeting goes in fast and easily because of its smooth surface and small displacement. It can readily be pulled and used over and over again, thus saving time and materials.

Another important advantage of ARMCO Sheeting is that you can order in the exact gage and type you need. The interlocking type, used where watertightness is desired, has a covering width of 14 inches and comes in 12 to 7 gage. The flange type, commonly used in sheeting trenches, is 12 inches wide and comes in 12 gage and heavier. Standard lengths of both types run from 6 to 20 feet or more. Write for complete information. Armco Drainage & Metal Products, Inc., and Associated Companies, 105 Curtis St., Middletown, Ohio.

★ ARMCO ★

ARMCO SHEETING

Famous Tonic for any business with light-hauling worries:
℞ New Ford Pickup Truck
TWO GREAT FORD ENGINES
The 100 H.P. V-8 • The 90 H.P. Six
Three-Quarter-Floating Rear Axle
BODY DIMENSIONS: Length 78¾ inches • Width 49 inches • Height 20.22 inches • Loading Height 23.73 inches • Load Space 45 cu. feet

New Ford Pickup Truck • Today's Ford Pickups are better trucks for *your* business. They're better trucks for *any* business. Exclusive Ford features and advancements make them roadworthy—streetworthy—farmworthy. Look below. You'll find advantages only Ford can offer—reasons why, year after year, registrations show "More Ford Trucks on the Road!"

MORE ECONOMICAL, MORE RELIABLE, MORE ENDURING THAN EVER!

TWO great engines—the rugged 100 H.P. V-8 with a score of important engineering advancements, or the 90 H.P. Six, for jobs that call for economical stop-and-go driving. Truck-type frame. Side-mounted springs. Three-quarter-floating rear axle with straddle-mounted pinion and 4-pinion differential. Four double-action shock absorbers. Note the generous dimensions of the heavy-gage steel Ford Pickup body, shown above—45 cubic feet of load space—wide enough for easy flat-loading of such 4-foot units as plywood or plasterboard (no wheel housings). Floor is heavy-gage steel-surfaced, with formed skid-strips and hardwood under-flooring. Tailgate, strong and rattle-free, swings full-down for loading.

Priorities No Longer Needed. Ford **See Your Ford Dealer!** **FORD TRUCKS**

Jimmy Doolittle

Jimmy Doolittle Back at Shell Oil Again

Lieutenant General James H. Doolittle is back again as a member of the Shell organization, this time as Vice-President of the Shell Union Oil Corp., 50 W. 50th St., New York, N. Y. He left in 1940 to resume his duties as First Lieutenant in the Army Air Force. The next five years are history and include the famous raid over Tokyo in April 1942, which made him a Brigadier General; later he was made a Major General, and the next year a Lieutenant General in command of the 8th Air Force. When James H. Doolittle left his desk it was with a record of 13 years in the Army Air Force and 10 years as Manager of the Aviation Department of the Shell Oil Co., Inc. He returns now to Shell Union to assist in the coordination of the aviation interests of the Shell Companies both here and abroad.

Chicago Bridge Reopens Detroit Office

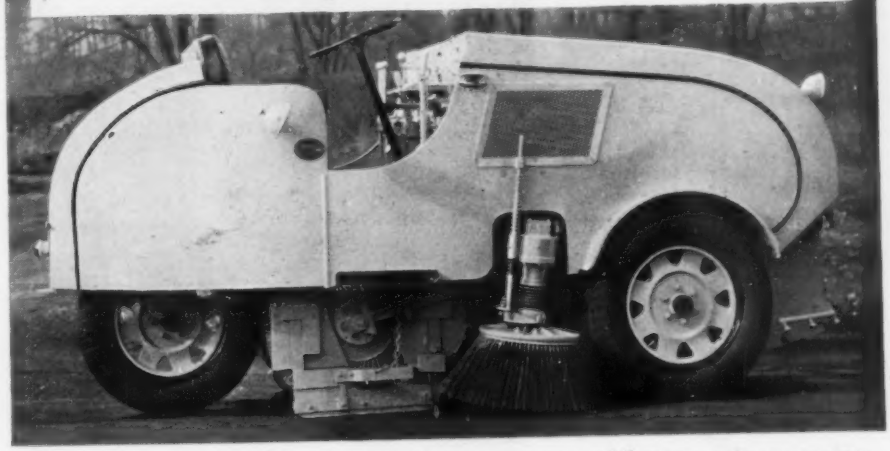
The sales office in Detroit, Mich. has been reopened by the Chicago Bridge & Iron Co., 332 South Michigan Ave., Chicago 4, Ill. This office is located at the Lafayette Building., and Edward D. Barrett is in charge.

New President for Addressograph

At a recent Director's meeting, George C. Brainard was elected President and General Manager of the Addressograph-Multigraph Corp., Euclid Post Office, Cleveland, Ohio. He succeeds Joseph E. Rogers, who will continue as chairman and a director of the executive committee.

Mr. Brainard has resigned as President of the General Fireproofing Co., Youngstown, Ohio, but will continue as a member of the company's board. Directors said the change was designed to "increase the company's management facilities in anticipation of greatly enlarged post-war activity by the company in the business simplification machinery field."

South Bend GUTTER-SNIPE
Pick-up Street Sweeper



MUNICIPAL SUPPLY COMPANY
Manufacturers
Street Sweepers
Street Flushers
Bituminous Distributors
SOUTH BEND 23, INDIANA
EXPORT DEPARTMENT, 44 Whitehall Street, NEW YORK 4, N. Y., U. S. A.

★ ★

Fresh, high quality broom fibres last longer

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

AFRICAN BASS FIBRES
INDIA PALMYRAH STALKS
MOUNTAIN HICKORY SPLINTS
STEEL WIRE SWEEPER STALKS

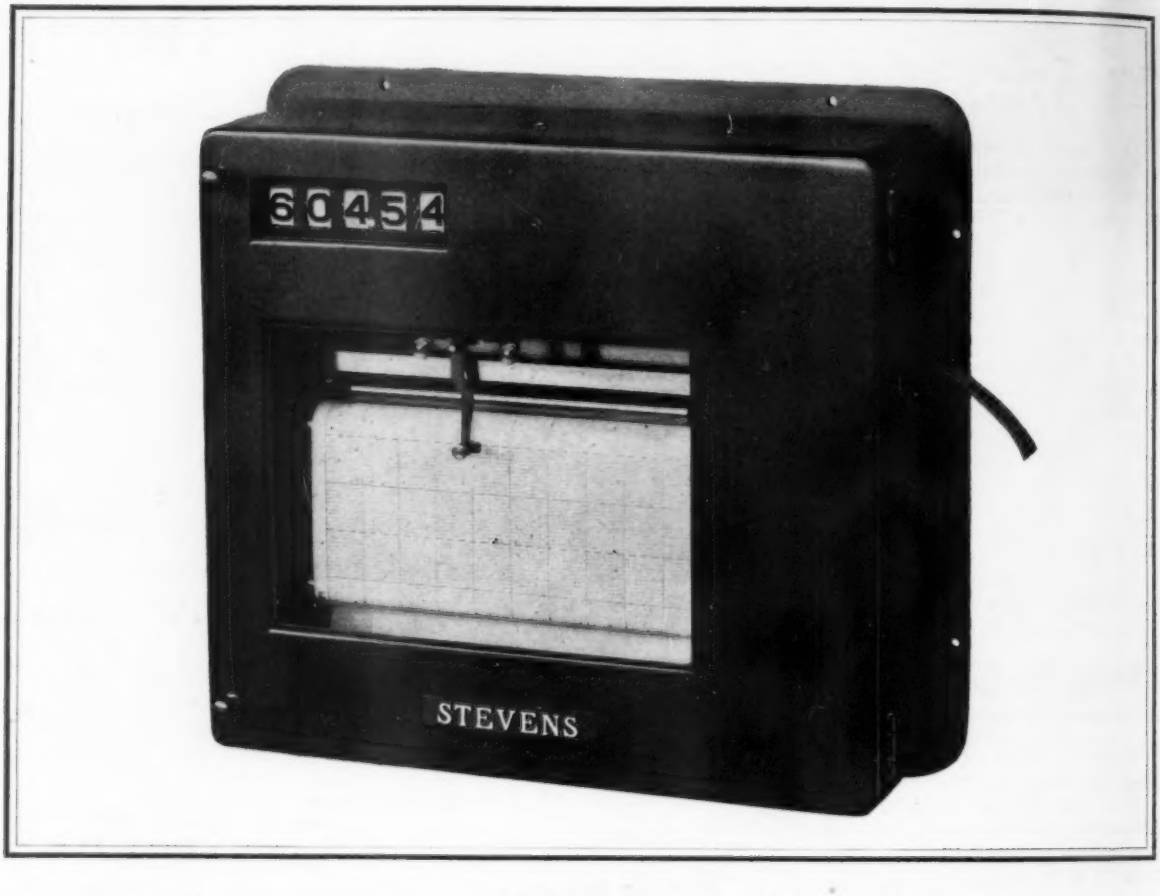
The OTTO GERDAU CO.
Established 1872
82 Wall Street, New York 5, N. Y.

STEVENS POSITION RECORDER

for Remote Registration

TYPE PAV qualifies for a multitude of uses—recording and indicating water levels, gate positions, valve openings, heads on turbines and pumps, or the remote registration of the position of any moving element.

Built for vertical mounting on wall or panel, the Type PAV is similar in principle to the Stevens Type A35 Recorder with a position motor substituted for the float pulley, thus converting the instrument into a remote registering recorder.



Type PAV

Pen is actuated by a distant position motor transmitter. Quality electric clock is standard equipment. Strip charts are available in 25-yard rolls for either English or metric units.

This versatile remote registration recorder is fully illustrated and described in Bulletin P15. Write for your copy.

LEUPOLD & STEVENS INSTRUMENTS

MANUFACTURERS SINCE 1907

PORTLAND 13, OREGON

Hydrographic, Surveying, Navigation, Automatic Controls

Leupold & Stevens Instruments
4445 N. E. Glisan St., Portland 13, Oregon
Please send Bulletin No. P15 on the Stevens *Type* PAV Recorder.

Name _____

Organization _____

Title _____

Street _____

City _____ *Zone* _____ *State* _____

By breathing into a canister located in the mask of Mine Safety's Chemox breathing apparatus, new oxygen is created

Mine Safety Introduces New Protective Mask

Mine Safety Appliances Co., Pittsburgh, Pa., has just announced a radically new development in respiratory protection, the Chemox Oxygen Breathing Apparatus. This apparatus, employing a replaceable chemical canister, generates its own oxygen and gives the wearer one hour's protection in unbreatheable air. The new Chemox apparatus weighs 13½ pounds complete, has no cylinders, high-pressure valves or fittings, and is especially suited to the requirements of industry and fire and police departments in meeting any emergency where high concentrations of poisonous gas or oxygen deficiencies are encountered.

This equipment was perfected shortly before Pearl Harbor and was immediately adopted by the U. S. Government.

A unique principle is employed in the mask to generate the oxygen supply, operating independently of the outside air. Oxygen is created by merely breathing into a simple canister. Exhaled breath passes from the "All-Vision" facepiece through the exhalation tube and into the canister where carbon dioxide is removed. Evolved oxygen flows into the breathing bag reservoir, then to the facepiece through the inhalation tube.

The apparatus is simple to use, and can be worn and operated without special training. Before the canister is exhausted, a pre-set alarm bell rings a warning that the canister must be replaced by a fresh one.

A descriptive bulletin, BM-8, on this apparatus is now available on request.

Washington Office of Dow Extends Sales Activities

The territory of the Washington sales office of The Dow Chemical Co., Midland, Mich., has been extended to include Virginia, North and South Carolina, Georgia, and Florida, according to an announcement by Leland I. Doan, Vice-President and Director of Sales. Previously the southeastern territory involved has been covered by the New York office.

The staff at the Washington office is being augmented to handle the additional activity.

Harry Ellsworth Joins Advertising Agency

Harry M. Ellsworth has been named Manager of the Industrial and Technical Advertising Department of The Charles Blum Advertising Corp., 1120 Spruce St., Philadelphia 7, Pa.

BACHRACH

Harry M. Ellsworth

Mr. Ellsworth was formerly Manager of General Advertising for the Pennsylvania Salt Mfg. Co., makers of chlorine compounds and other chemicals used in water purification.

AUTOMATIC
PUMP
CONTROLS

We are manufacturers, designers and specialists in the field of pump control. Send for Bulletins on any controls in which you may be interested.

TANKTROL—for elevated tanks, remote or nearby control by pressure. Bulletin T-11.

DUOTROL — for hydro-pneumatic (pressure) tanks. Control of both air and water volume. Bulletin D-6.

FLOAT SWITCHES — pump controls for tanks and sumps. Bulletin RO-3.

FLOATROLS — for open tanks and sumps. Single float, multiple circuit, sequence controls. Bulletin F-6.

SELECTROLS — for sewage disposal plants and water systems. Programmed multiple circuit operation. Bulletin S-7.

SPECIAL CONTROLS — for any unusual problem in water and sewage control. Write us your requirements.

AUTOMATIC CONTROL Company

1015 University Ave. St. Paul 4, Minn.

INFILTRATION GALLERIES

through the medium of

Ranney Water Collectors

New Sources of Colorless, Tasteless Bacteriologically Pure Water

Permanent — Economical

RANNEY METHOD WATER SUPPLIES, INC.

Heyburn Bldg., Louisville, Ky.

Water Supply Engineers & Contractors

Investigation for and Construction of Ground Water Supplies

INSTALLATIONS WORLD WIDE

LARGEST CITY TO SMALLEST VILLAGE

VALVES COMPLETE EQUIPMENT FOR WATER WORKS FILTRATION AND SEWAGE DISPOSAL PLANTS LATEST "COREY TYPE" HYDRANTS

Write for Catalogue and Information

IOWA VALVE CO.

General Offices: Hubbell Bldg., Des Moines, Iowa

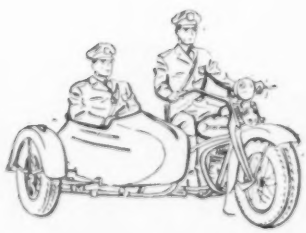
Plant: Oskaloosa, Iowa

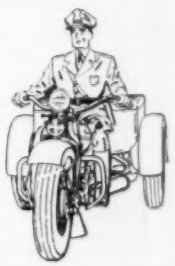
COVER MORE TERRITORY IN LESS TIME WITH HARLEY-DAVIDSONS

Officer Carl Huseman of the Quincy, Illinois, Police Department shows one of the many police duties that are done with greater efficiency by men mounted on Harley-Davidson Police Motorcycles. Using a Harley-Davidson Servi-Car, he marks all parked cars in the Quincy downtown area in 30 minutes on one trip!

MOTORCYCLE Squads equipped with both solo Harley-Davidson Police Motorcycles and Servi-Cars handle a tremendous range of traffic control and law enforcement assignments. These include checking illegal parking, double parking, overtime parking, parking in loading and safety zones — and checking parking meters and collecting parking deposits. Also in controlling speeders, handling traffic jams, doing escort work, guarding property, and protecting children at school crossings. No other method can match Harley-Davidson Motorcycles for effectiveness in so many phases of police work. Call in your Harley-Davidson dealer today and get complete information on these dependable police motorcycles with their efficient, economical operation.

HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wisconsin





HARLEY-DAVIDSON

Police Motorcycles

This painting was reproduced in Esquire *recently and shows a turn-of-the century model of the Buffalo-Springfield Roller Co.*

Buffalo-Springfield Roller Models for *Esquire*

A turn-of-the-century model of the Buffalo-Springfield Roller Co. appeared in the November issue of *Esquire* in a full-color, gatefold-size reproduction of a painting by Peter Helck. Artist Helck went to the Springfield Co., which has been manufacturing such equipment for over fifty years, to collect data for his humorous portrayal of the hazards of competition in the Glidden Tour, one of the earliest reliability runs for horseless carriages.

The results of his research are very evident in *Esquire*, which shows a large 1907 vintage Buffalo-Springfield roller in the foreground holding up the contestants by blocking the single lane road.

Officers Elected by Diesel Engine Manufacturers

At a recent annual meeting of the Diesel Engine Manufacturers Association, One North LaSalle St., Chicago 2, Ill, the following officers were elected:

President: E. J. Schwanhausser, Vice-President of Worthington Pump & Machinery Corp., Harrison, N. J.

Vice-Presidents: Gordon Lefebvre, President of Cooper-Bessemer Corp., Mount Vernon, Ohio; and J. E. Peterson, Vice-President of General Machinery Corp., Hamilton, Ohio.

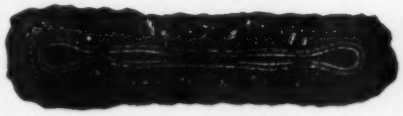
Treasurer (re-elected): Robert H. Morse, Jr., Vice-President and General Manager, Fairbanks, Morse & Co., Chicago 5, Ill.

Executive Director (re-elected) Harvey T. Hill.

New Directors elected are: A. W. McKinney, Vice-President, National Supply Co., Toledo, Ohio; and G. F. Twist, Vice-President and General Manager, Atlas Imperial Diesel Engine Co., Oakland, Calif.

Continuing on the Board of Directors are G. W. Codrington, Vice-President of General Motors Corp., Detroit Mich.; C. E. Brinley, Chairman of the Board, Baldwin Locomotive Works, Philadelphia, Pa.; R. E. Friend, President of Nordberg Mfg. Co., Milwaukee, Wis.; Norris H. Schwenk, President of Busch-Sulzer Bros.-Diesel Engine Co., St. Louis, Mo.; Mr. Schwanhausser, Mr. Morse, and Mr. Lefebvre.

WHY—



The above illustration shows the position of the rubber lining in

Bi-Lateral Fire Hose

when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

— Also —

We can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction cheaper than one priced at $7,000 when loaded with other construction.

BI-LATERAL FIRE HOSE CO.

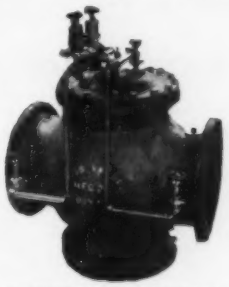
20 N. Wacker Drive, Chicago, Illinois

ROSS Automatic Valves

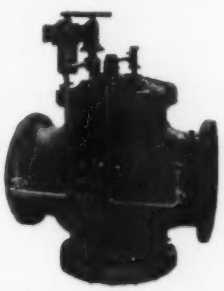
Also manufacturers of float valves, pressure-reducing valves, relief valves and back pressure valves.

No distribution system is better than the valves that control it—

ALTITUDE VALVES for Control of elevation and heads into and out of tanks, basins and reservoirs.
1. Single acting.
2. Double acting.
3. Combination assembly for three or more automatic operations.



COMBINATION VALVE
Combination automatic control both directions through the valve.
A self-contained unit, with three or more automatic controls.



REMOTE CONTROL VALVE
Electric remote control—solenoid or motor can be furnished.
Adapted for use as primary or secondary control on any of the hydraulically controlled or operated valves.

Write today for catalogs and details to fit your particular system.

ROSS VALVE MFG. CO.
INCORPORATED
P. O. BOX 596, TROY, N. Y.

● Today Hardie is building more sprayers than ever before to meet the demand for tested and proved spraying equipment.

Hardie big-capacity, high-pressure shade tree sprayers are available in limited quantity but if you have an old Hardie keep it in working condition.

Replacement parts and service materials for any Hardie Sprayer regardless of year or model are freely available.

THE HARDIE MANUFACTURING COMPANY

Los Angeles, Calif. HUDSON, MICH. Portland, Oregon

Export Dept. Book Tower, Detroit 26, U. S. A.—*Canadian Distributor:* Clarence W. Lewis, Grimsby, Ont.

HARDIE

DEPENDABLE SPRAYERS

THE ONLY SPRAYER THAT IS COMPLETELY LUBRICATED

Major Victor T. Nydele

Aviation Service for Your City

In announcing the activities of the Lauria Engineering Corp., 350 Fifth Ave., New York N. Y., engineers and constructors in the aviation and industrial fields, it is pointed out that the personnel of this organization developed and furnished many types of standard hangars used during the war and also other utility buildings.

To the aviation field this organization offers a complete service including a preliminary study with recommendations, overall plan, design and construction of a complete airport ready for operation. They are also prepared to make improvements and additions to existing airports where present facilities are inadequate. Their standard units of hangars and other buildings are designed and built to permit ready adaptation to individual requirements.

In addition to the division office in Chicago, Mr. Herbert B. Luria, President, announces that the New York office has been expanded and moved to new quarters at 500 Fifth Ave. Associated with Mr. Luria are B. H. Tripp, Executive Vice-President; P. A. Strobel, Vice-President and Director of Engineering; and R. L. Hedlander, Sales Manager.

Announcement is also made of the appointment of Major Victor T. Nydele, formerly of the Corps of Engineers, U. S. Army, as Mid-Western Division Manager of the corporation with offices in Chicago. Prior to his service with the Aviation Engineers both in the United States and overseas, he was an engineer and constructor in the Middle West for the past twenty years.

Welsbach Engineering Appoints Purchasing Agent

Fred O. Paige has been appointed purchasing agent of Welsbach Engineering and Management Corp., 1500 Walnut St., Philadelphia 2, Pa., and all its subsidiaries, according to an announcement by Morse Dell Plain, President.

Mr. Paige, formerly executive assistant, replaced John F. McGough, who has been promoted to the New Business Department of the street lighting and construction companies of the Welsbach group as special representative.

Expansion Program Planned by Philip Carey

A $5,000,000 plant modernization and expansion program for The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio, was announced recently by R. S. King, President of the company, to make available increased quantities of insulation, roofing, and industrial building materials in the near future.

The overall program will affect five Carey locations at Lockland, Cincinnati, Ohio; Middletown, Ohio; Perth Amboy, N. J.; Plymouth Meeting, Pa.; and Lennoxville, P. Q., Canada.

According to Mr. King, consulting engineers, have been working on the program and several of the projects will be started immediately.

Several new products will be put on the market as a result of the expansion program. Production facilities for these products are being readied as part of Carey's two-year program of expansion and improvement.

ROADMASTER
Street Sweeper
WIRE

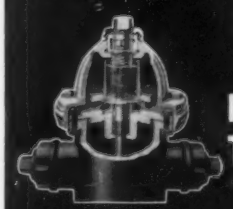
High Scleroscope Rating
Uniform temper.

Specially processed for high fatigue — against breakage. Long wearing. Conveniently cut and delivered in 100 and 200 lb. boxes. Prompt shipment from stock of all standard sizes.

This gutter broom wire will prove an economy in your service.

"MORE MILES PER BRUSH"

JOHNSON
Steel & Wire Co., Inc.
Worcester 1, Massachusetts
New York Akron Chicago Detroit
Los Angeles Toronto



HERE IS A FIRE HYDRANT THAT OILS ITSELF

Every time you open a MUELLER-COLUMBIAN hydrant all working parts in the bonnet are given a bath by the oil in the reservoir. The packing gland is lubricated at the same time. Eliminates rust, corrosion, binding, and freezing. Packing never dries out. You can open or close this hydrant easily in any kind of weather — winter or summer. Only the MUELLER-COLUMBIAN has this EXCLUSIVE self-oiling feature. Demand it. Write for folder giving all the details of this better fire hydrant.

MUELLER CO.
CHATTANOOGA 1, TENN.
DECATUR, ILL. LOS ANGELES, CALIF.

LEAK DETECTOR
Quick, positive location of underground leaks!

- The most sensitive instrument so far developed for detecting underground leaks, the Globe Geophone pays for itself many times over in conserving precious water and steam. "Ear" operates on the principle of the seismograph used for recording earth tremors. Simple, accurate, and dependable!
- No Industrial Plant, Public Utility or Institution having underground piping, water or steam can afford to be without a Globe Geophone in its maintenance department. Recommended by hundreds of satisfied users!

GLOBE PHONE MFG. CORP.
DEPARTMENT "H" **READING, MASS.**
Save Water . . . Save Steam

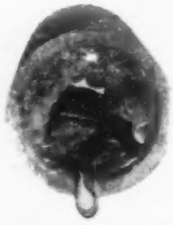
$2,000 INVESTMENT PAYS $29,565 PROFIT

on a Flexible Pipe Cleaning Job

The above figures are the actual investment and profit from a Flexible watermain cleaning job in one city.* The lines were cleaned in 1940 for a total cost of $2,000. During the past five years a constant ph has been maintained. Actual savings in pumping costs amounted to $18,250 over the five-year period. With an increase of 365,000,000 gallons of water pumped each year or 1,825,000,000,000 gallons total at 3½c per 100 cu. ft. the profit was increased $13,565 or a grand total of $31,565 less the $2,000 original investment.

Would your city be interested in an investment that pays 1400 per cent? Let Flexible figure the cost of cleaning your mains. Write or wire today for details.

Name of city furnished upon request.



What Will It Be?

A Trickle or a Torrent for new Homes in your city?

Flexible Service trucks complete with experienced crews and special Flexible-developed tools are strategically located in all sections of the U. S. A. to give pipe-cleaning service quickly.

Flexible will clean any pipe from 2" to 72"

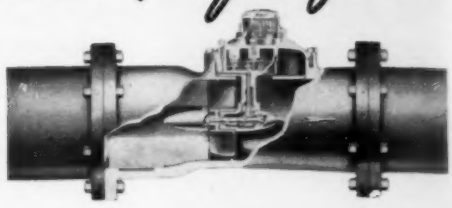
FLEXIBLE UNDERGROUND PIPE-CLEANING CO.

615 Pickwick Bldg. Kansas City 6, Mo.
1624 Harmon Place Minneapolis 3, Minn.
P.O. Box 165, Atlanta P.O. Box 694 Gulfport, Miss.
41 Greenway St. Hamden, Conn.

9059 Venice Boulevard
Los Angeles 34, California

3645 E. 75th St. Chicago 49
147 Hillside Terrace Irvington, N. J.
P.O. Box 694, Pittsburgh 401 Broadway New York 13
29 Cordan Ave. Roslindale 31, Mass.

BUILDERS *Propeloflo* METER



When you buy a propeller meter for main line metering, be sure it has Venturi design:

- **VENTURI DESIGN** for more power; more power to overcome friction; more power to drive auxiliaries.
- **VENTURI DESIGN** for improved results under unfavorable installation conditions; minimizes effect of pipe fittings.
- **VENTURI DESIGN** for greater accuracy throughout wide flow range.
- **VENTURI DESIGN**—an exclusive Propeloflo Meter feature—at no extra cost.

For Bulletin 350A, address Builders-Providence, Inc. (Division of Builders Iron Foundry), 18 Codding Street, Providence 1, Rhode Island.

BUILDERS

BUILDERS-PROVIDENCE

KWIK-MIX BITUMINOUS NON-TILTING MIXER

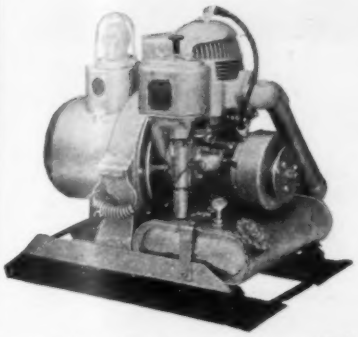
● An End Discharge mixer for applying cold or hot laid bituminous mixtures to new surfaces, for re-facing and for maintenance. The wide, quick acting discharge gate of the non-tilting drum reduces the time between batches. This light weight, portable unit can be quickly spotted and because of the end discharge advantage, the mixer can be conveniently pulled away from the discharged material. Equipment includes two burners which can be easily removed for controlling temperatures.

●

Write for Catalog BAC

●

KWIK-MIX COMPANY
KOEHRING SUBSIDIARY
PORT WASHINGTON • WISCONSIN



Homelite has introduced two new lightweight generators for use as portable power sources

Homelite Introduces Lightweight Generators

Two new gasoline engine-driven generators have been announced by the Homelite Corp., Port Chester, N. Y. These portable power sources for electric tools, floodlights, radio and amplifying equipment can be moved quickly to any location for emergency power or where power lines are inaccessible. Model 21D—a 2,000-watt, 120-volt dc generator,—weighs only 105 pounds, and the Model 21A, an 1,800-watt, 115-volt ac generator, weighs only 115 pounds.

New design features developed for the Army and Navy and tested in actual combat are said to make these units sturdy and dependable. Aluminum alloys are used for all large castings and the single-cylinder air-cooled two-cycle engine has only one valve, a rotary disc type which is self-seating and requires no adjustment. Other features include an improved Wico magneto; an automatic built-in governor controlling the engine speed; a pressure-vapor oil system which sprays fresh oil over all moving parts with each revolution.

The Homelite Corp. announced recently the opening of a new branch office in the Terminal Sales Bldg., Seattle, Wash., to provide quick service for Washington, Oregon, and Idaho. A. D. Sherwood, former salesman for the company in the Charlotte, N. C. area will be in charge. He was recently released from active duty with the U. S. Navy.

R. J. Marschalk, newly appointed manager of Homelite's San Francisco office, announces complete restoration of service and parts facilities for northern California and Nevada.

Sylvania Acquires Subsidiaries

Wabash Appliance Corp., independent manufacturers of photoflash and incandescent lamps, has merged with the Wabash Photolamp Corp. and Birdseye Electric Corp., to become a wholly-own but independently operated subsidiary of Sylvania Electric Products, Inc., according to an announcement by Walter E. Poor, President of Sylvania Electric Products, Inc., Salem, Mass.

A. M. Parker remains as President and General Manager of Wabash with headquarters at Brooklyn, N. Y. Sales staffs, sales policies, product brands, and distribution outlets remain unchanged.

The Brooklyn plant will continue to manufacture photolamps, incandescent lamps, reflector lamps, and infra-red heat lamps, with augmented production of light conditioning and other standard light bulbs.

Acquisition of Wabash and Colonial Radio last year consolidates Sylvania's position as a major producer in the incandescent lamp, fluorescent lighting, radio tube, and photoflash fields, with factories acquired in Massachusetts, Pennsylvania, New York, and Illinois, in addition to the Brooklyn plant.

Don G. Mitchell, Vice-President in charge of Sales, Sylvania Electric Products, Inc., places light conditioning and fluorescent lighting at the head of his company's vast program for 1946.

Walter Kidde Moves General Sales Offices

Walter Kidde & Co., manufacturers of fire extinguishers, announced recently the removal of their general sales office formerly located at 140 Cedar St., New York City, to the main office of the company at 675 Main St., Belleville 9, N. J.

For convenience in telegraphing the company the address "Walter Kidde & Co., Inc., WUX, Belleville, N. J." is to be used.

The *Coagulant* that *Cuts Costs!*

TENNESSEE CORPORATION Ferri-floc FERRIC SULPHATE

Ferri-floc . . . the ferric coagulant that is successfully and economically used in sewage treatment throughout the United States. Take advantage of modern plant research and findings: use Ferri-floc.

Tennessee Corporation's technical staff will be glad to help you with your specific problems. Write to us today. The consultation service is free, of course.

The Mark of Quality

TC TENNESSEE CORPORATION

Tennessee Corporation

Atlanta, Georgia Lockland, Ohio

The Growth of PITOMETER Prestige

AFTER nearly 50 years in the water works field, the success of Pitometer methods is evidenced by the fact that in 1945 alone, no less than 58 cities in the United States, Canada, Central and South America employed the services of our Engineers to make engineering studies and water waste surveys of their water systems. A partial list follows:

UNITED STATES

Bellwood, Ill.	McKeesport, Pa.
Biloxi, Miss.	Middlesex W. Co., N. J.
Boston, Mass.	Mt. Clemens, Mich.
Buffalo, N. Y.	North Riverside, Ill.
Canonsburg, Pa.	Oil City, Pa.
Charlotte, N. C.	Orange, N. J.
Cincinnati, Ohio	Paris, Texas
Cumberland, Md.	Petersburg, Va.
Columbus, Ohio	Philadelphia, Pa.
Durham, N. C.	Phoenix, Ill.
Fort Myers, Fla.	Pittsburgh, Pa.
Greenville, Texas	Pontiac, Mich.
Grosse Pte. Pk., Mich.	Proctor, Minn.
Hackensack W. Co., N. J.	Raleigh, N. C.
Hamtramck, Mich.	Rawlins, Wyoming
High Point, N. C.	Rochester, N. Y.
Huntsville, Ala.	Sharpsburg, Pa.
Jackson W. Co., Ohio	Trenton, N. J.
Lynchburg, Va.	Washington, D. C.
Malone, N. Y.	Williamsport W. Co., Pa.
Marietta, Ohio	Wellsville, N. Y.
	Worcester, Mass.

CANADA

Quebec, Que. St. Laurent, Que. St. Johns, N. B.

CENTRAL AND SOUTH AMERICA

San Salvador, El Salvador Medellin, Colombia
Montevideo, Uruguay San Jose, Costa Rica

Efficiency of operation will be even more important in the coming year, when reduced revenue will demand a corresponding reduction in operating costs. This can be accomplished by a water waste survey.

Postwar construction programs should be checked by a Water Distribution Study or a Trunk Main survey.

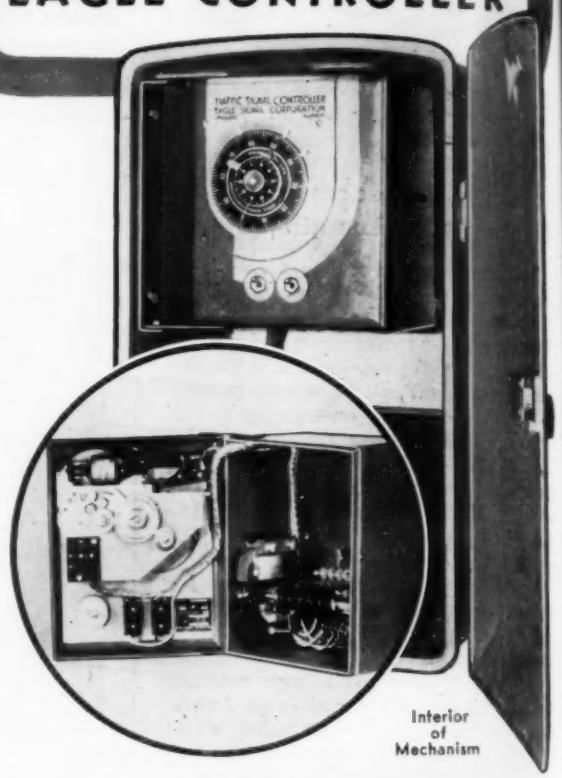
Ask for Pitometer bulletins Nos. 20 and 21.

The PITOMETER Co.

Water Distribution Engineers

50 CHURCH STREET NEW YORK 7, N. Y.

The new "EM" SIX CIRCUIT SYNCHRONOUS EAGLE CONTROLLER



Interior of Mechanism

ELIMINATES Field Service Problems

This New Eagle "E M" Six Circuit Synchronous Controller

EMBODIES

- Powerful synchronous disc motor with ball bearings throughout
- New sturdy connector plug jack mounting
- Ball and socket contacts
- Hinged mechanism for accessibility
- Tried and proven mechanism

IT PROVIDES ALSO

- Large easy-to-read timing dial with individual adjusting levers.
- Rotary-action contact switching mechanism, positive and smooth in action
- Provision for accessories such as flashing, fire department signal, push-button manual control. Radio interference filter
- Compact design readily adaptable to mounting in your present cabinets—to replace worn out controls. Can be shelf-mounted

It Costs No More—Why Accept Less?

WRITE FOR FURTHER INFORMATION.

EAGLE SIGNAL CORPORATION

MOLINE . . . . ILLINOIS

This reproduction of the front cover of Penn Salt's book on chlorinated lime points to its use in the municipal field

New Booklet on Chlorinated Lime

A new booklet has just been published by the Pennsylvania Salt Manufacturing Co., 1000 Widener Bldg., Philadedphia, Pa., on Quaker Improved Chlorinated lime. Chlorinated lime is an economical source of chlorine for water sterilization. It is an oxidizing agent in organic synthesis and useful as a general disinfectant.

New manufacturing methods and improved conditions for controlling manufacture have resulted in better stability, more uniformity, and a lower moisture content.

Kimber Appointed to Calcium Chloride Post

George H. Kimber has been appointed to the newly-created position of Managing Director of the Calcium Chloride Association, Detroit, Mich.

HARRIS & EWING
George H. Kimber

Mr. Kimber has been affiliated with Solvay Sales Corporation, New York, N. Y., for the past 25 years and, as Manager of Calcium Chloride sales, acquired broad experience in the many technical uses of the chemical. He was for the last 11 years Chairman of the Executive Committee of the Association and became thoroughly familiar with the program of extended independent research. He has also kept in close touch with the association's publication and distribution of technical literature giving the results of the research and field use.

Because of his work in connection with the highway uses of calcium chloride, Mr. Kimber has wide acquaintance among highway officials and engineers.

Davey Appoints West Coast Representatives

Davey Compressor Co., Kent, Ohio, announces the selection of S. Herbert Lanyon of San Francisco to handle its line of air compressors in the northern half of California, according to an announcement by Paul H. Davey, President.

Mr. Lanyon's organization will serve as direct factory agent for the Davey concern and will supervise dealer activities. C. B. Smith will assist Mr. Lanyon in this new activity.

Mr. Lanyon, a mechanical engineer by profession, is prominent in the design, manufacture, and installation of refractory structures. He is also active as a sales engineer, handling chiefly steam power plant equipment, industrial gas burners, oil refinery apparatus, chemical equipment, and supplies.

Stacey Brothers Expands

A large expansion program involving the entire organization and shop facilities, aimed at giving a highly specialized technical service to the gas industry, is being completed by Stacey Brothers Gas Construction Co., Cincinnati, Ohio, one of the Dresser Industries. Emphasis at the present time is on the design and construction of propane and butane-air installations and liquefied natural gas storage plants, according to William E. Gruening, President of the company.

The engineering services have been organized to cope with pressing problems of the gas industry, such as existing and anticipated peak load demands and replacing equipment and processes, which have carried a terrific burden during the war years and must now be modernized to enable the industry to expand further.

More Garbage In Less Space

More pickups per trip . . . fewer trips to the disposal area. W. E. Grace Garbage Truck Bodies are the most modern, economical bodies on the market. With a simple combination packing and dumping mechanism, the Grace Garbage Truck Body can be operated easily and without wasted motion. Mechanism pushes load out back, eliminating necessity of tilting body and extra work during dumping. New and improved model with water-tight bottom prevents disagreeable drippings.

LONG-LIFE SWEEPERS

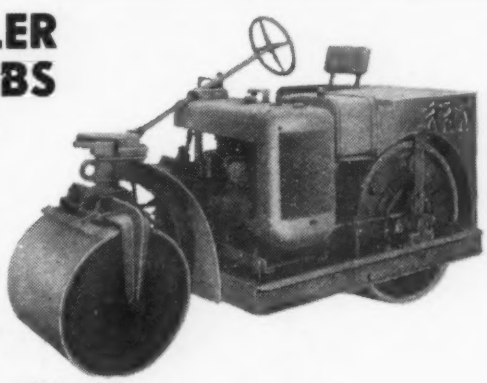
Grace Sweepers with extra long-life bristles are available without priorities. Easily adjustable, Grace motor or 2-way axle-driven sweepers sweep a path 74 inches wide EXTRA clean . . . sweeps evenly. Fast and economical.

Write today for full details.

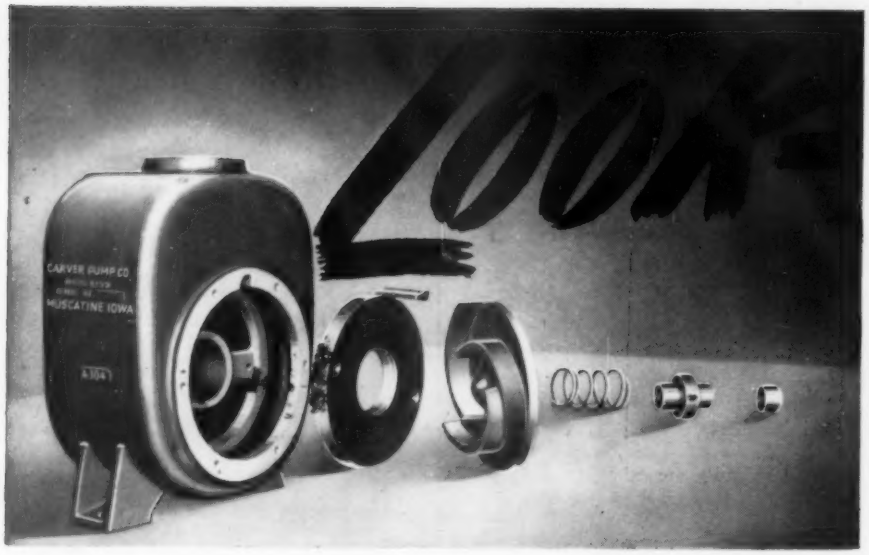
W. E. GRACE Manufacturing Co.
6005 S. Lamar St. Dallas, Texas

A TOUGH ROLLER FOR TOUGH JOBS
Pierce-Bear 3½-5 Tons, Variable Weights

Engineered for economical operation where the going is tough. Compact, easy to operate. Rear roller gives heavy duty compression. Built-in water tanks for wet rolling. Powered with Allis-Chalmers Industrial Heavy Duty Model "B" gasoline engine. Write for details.



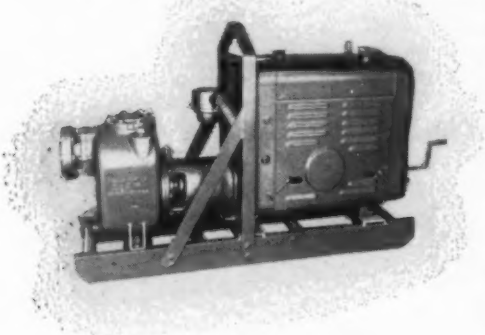
Manufactured by
H. W. LEWIS EQUIPMENT COMPANY
415-431 Hoefgen Ave. SAN ANTONIO 6, TEXAS Phone Garfield 6137 or 8931



...how simple they are!

There are fewer parts in Carver pumps because every part does its job right. No gadgets have to be added to step up efficiency or correct faults. Impellers are scientifically designed with web-reinforced vanes confining wear to but one side. Renewable liners carry a cast lug protecting the scroll casing at the impeller cut-off where wear is greatest. The wearing surface seal rings of the Carver Lifetime Seal are made of Tungsten Carbide—a material so hard it cuts glass like a diamond.

Every Carver Pump carries a "Certified" tag which means that it has been carefully tested and fully meets our high standards for performance on the job. Write for details or see your local distributor.



THE CARVER PUMP CO.
Muscatine, Iowa

CARVER CENTRIFUGAL
Certified **PUMPS**

Sales Promotion Manager for Allis-Chalmers Division

Charles N. Karr has been appointed Sales Promotion Manager of the Tractor Division of Allis-Chalmers Mfg. Co., Milwaukee, Wis., according to an announcement by W. A. Roberts. He will succeed E. L. Aikins, who was recently placed in charge of the Tractor Division office at Seattle, Wash.

Mr. Karr has been with the Tractor Division organization since 1919. He subsequently opened the first Allis-Chalmers tractor branch in Illinois at Bloomington, and later moved to Peoria as Branch Manager in 1931 when Allis-Chalmers purchased the Rumely Company.

During the 1930's Mr. Karr spent a few years in the J. I. Case organization and later with the Cleveland Tractor Co.

Solvay to Build Research Laboratory

A new research laboratory will be started at Syracuse by the Solvay Process Co., a subsidiary of Allied Chemical & Dye Corp., Syracuse, N. Y., producers of alkalies, chlorine, ammonia, and other nitrogen products.

This new laboratory to be located within the present plant site at Syracuse, will house the research organization of the Alkali Division of Solvay. The laboratory of the Nitrogen Division is located at Hopewell, Va.

The company is making these plans to expand its research program and to increase its research organization since it anticipates that the severe competitive conditions in the chemical field will become more intense, and also believes that productive research is the best method of successfully meeting such competition.

American Chain & Cable Purchases New Plant

American Chain & Cable Co., Inc., Bridgeport 2, Conn., has purchased a manufacturing plant at 1575 South Sixth St., Camden, N. J.

The entire plant will be devoted to the manufacture of Pennsylvania Lawn Mowers, formerly made at Primos, Pa. The Pennsylvania Lawn Mower Works was acquired by American Chain & Cable about a year and a half ago. Production at the new plant started in January, and all contact with the Pennsylvania Lawn Mower Division should be made at the Camden address.

Advertising Manager for Dresser Manufacturing Division

Robert S. Bubb has been appointed Sales Promotion and Advertising Manager of Dresser Manufacturing Division, Dresser Industries, Inc., Bradford, Pa., according to a recent announcement by Hector P. Boncher, General Manager.

Robert S. Bubb

Mr. Bubb, who holds the rank of Lieutenant Commander, served for the last four years with the United States Navy. Prior to this he was engaged in industrial advertising and marketing activities in the New York area.

Cleanout Provides Accessibility to Drainage Lines

Ready access to drainage lines can be provided by use of Supreme Cleanout manufactured by the J. A. Zurn Mfg. Co., Erie, Pa. The main feature of this equipment is the elimination of freezing, which is assured first by free-running threads which secure the cover in position so that it can be sealed with lead; and second, covers that are thoroughly rust-proofed by Cadmium Plating outlasting ordinary galvanizing and retarding corrosion of the metal.

The cover is screwed into position and then lead calk is poured around it against the body. Because of the cover's tapered sides, the calk forms a tight, leak-proof connection. To get at the lines, normal wrench pressure readily frees the cover. To restore the original testproof connection the cover is drawn up tight against the calk.

Marmon-Herrington Co. Enters Transit Field

Marmon-Herrington Co., Inc., Indianapolis, Ind., is entering the transit equipment industry presenting a line of trolley coaches designed under the direction of Charles Guernsey who has been elected Vice-President of the company, and Manager of the Transit Equipment Division.

In 1931 this company was formed to manufacture heavy-duty all-wheel-drive motor trucks and develop military vehicles. In 1935 it pioneered in developing equipment for the conversion of standard Ford trucks to all-wheel-drive. At the beginning of the war they were ready for a substantial volume of business in these vehicles for civilian services, and throughout the war, utilization of the principle developed by the company for converting of conventional trucks to multiple-drive vehicles helped the automotive plants of the country get into early production large numbers of these vehicles for military services.

A. W. Herrington, Chairman of the Board of Marmon-Herrington announces that full-scale manufacture of the company's regular line of all-wheel-drive trucks and Ford conversions for commercial and industrial services is now in effect. At the same time, the great expansion of facilities during the past few years provides adequate additional capacity to manufacture the new line of trolley coaches.

Charles Guernsey has had more than thirty years of experience as engineer, manufacturer, and manager in the automotive and transit equipment industries. He was associated with the J. G. Brill Co., Philadelphia, for more than twenty years. During the war he took a leave of absence to serve as Technical Director and later as Chief of Production for the Philadelphia Ordnance District.

Mr. Guernsey has been an advocate of the trolley coach for many years and expects to concentrate his activities exclusively on this line. Initial orders have already been booked from Indianapolis Railways, Inc., and from Columbus and Southern Ohio Electric Co., The first production will be 44 passenger models.

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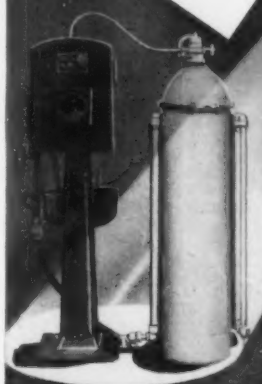

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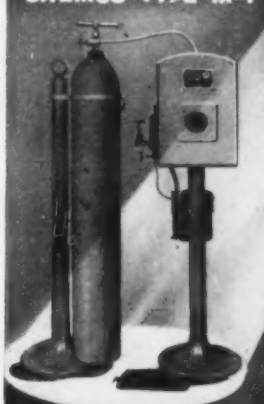

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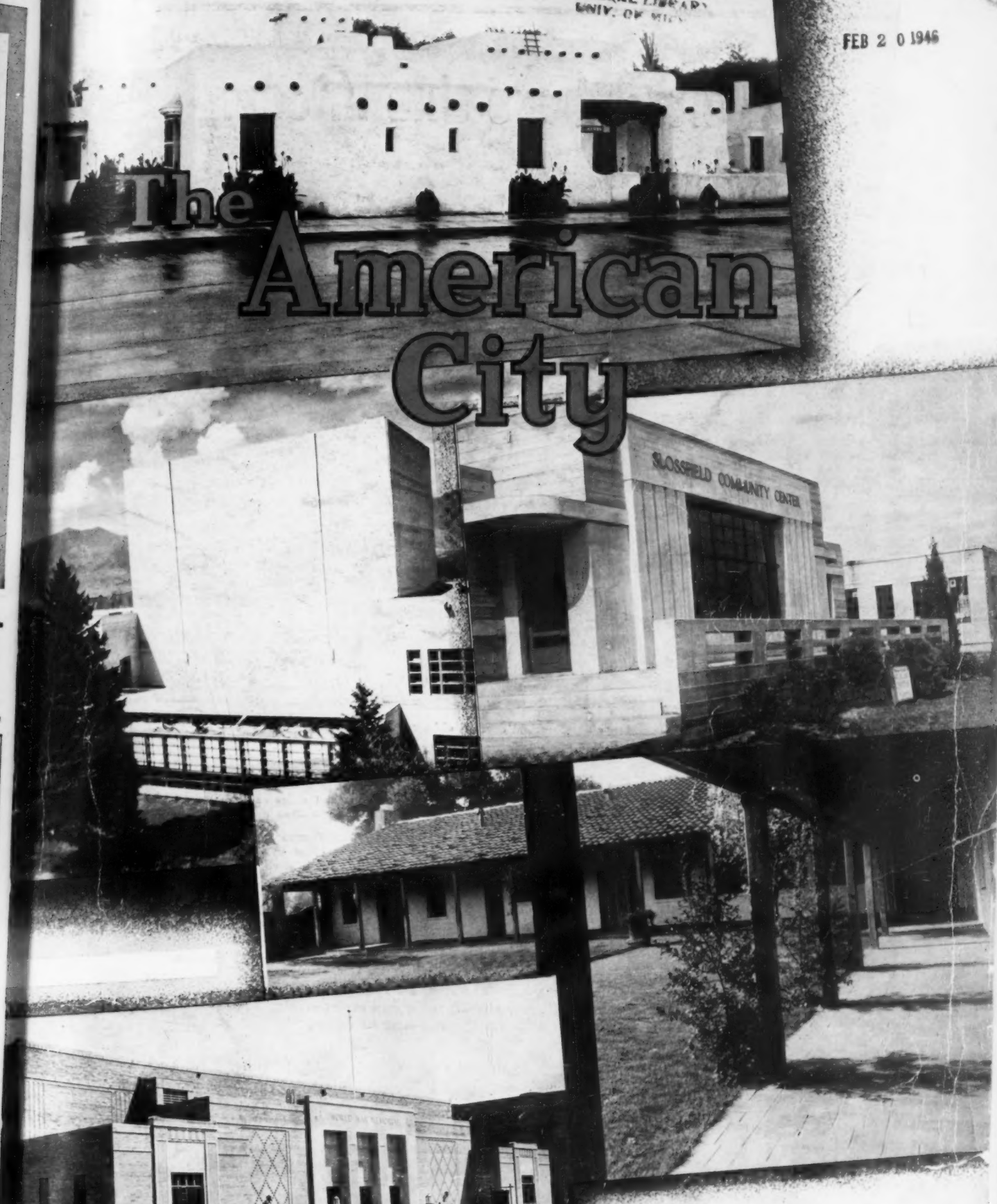

Types of community buildings suitable for war memorials

(See pages 88 and 89 of this issue)